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STAPHYLOCOCCAL PNEUMONIA: A REVIEW OF 329 CASES*

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THE GRAVE PROBLEM presented by staphylococcal pneumonia in pædiatric practice is probably realized by everyone concerned. In an attempt to find the mode of treatment which would give the best results—that is, the lowest mortality—the case reports of all patients with staphylococcal pneumonia treated in the Hospital for Sick Children, Toronto, between January 1950 and December 1958, were reviewed. Included in this series are all patients with radiologically proved pneumonia suggestive of the staphylococcal variety and a positive culture for pyogenic staphylococcus from material obtained in one or more of the following ways: Auger suction, thoracentesis, bronchoscopic suction, blood, and post-mortem removal.

During this nine-year period 329 cases of staphylococcal pneumonia were treated. The case and sex incidence in the individual year is shown in Fig. 1. The attack rate was somewhat higher in boys than in girls. Of all cases 68% were in the group under one year of age. Staphylococcal pneumonia used to be a rare disease in children of school age. From 1956 on, a slight increase is noted in this group and in 1957, 19%, and in 1958, 16% of cases occurred in children over six years of age. Three per cent of all cases were in premature infants who acquired the disease after a varying length of stay in hospital. This 3% is included in the group of 32% with a recent hospital contact. These children developed the disease while they were in hospital for some other reason, or they had been in hospital no longer than six weeks before their admission for pneumonia. Measles was found to precede or coincide with the pneumonia in 6% of cases. Skin infections, in the form of infected eczema, pustules and abscesses, were present in 17% of all cases.

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SEASONAL INCIDENCE

The seasonal incidence of the disease follows the incidence of pneumonias in general, 71% of cases being fairly evenly distributed from October to May inclusive, and the remaining 29% over the summer months.

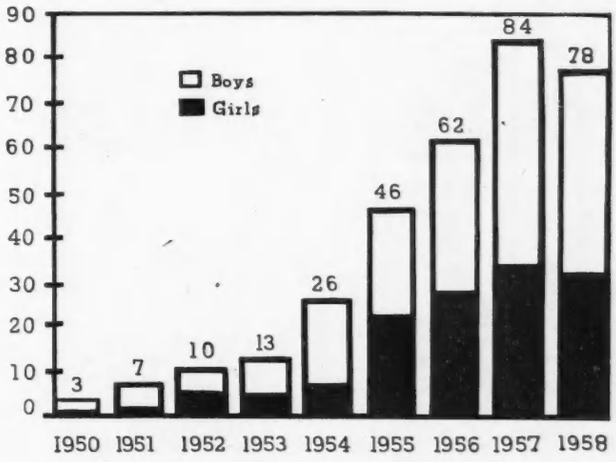

Fig. 1.—Case and sex incidence.

SYMPTOMS

The early symptoms, which were recognized by the parents and made them consult a physician, were: fever (96%), cough (65%), dyspnœa (62%), upper respiratory infection (44%), anorexia (42%), grunting (35%), irritability (33%), and vomiting (24%). The time from the onset of these symptoms until hospital admission varied. Of all the children 13% had symptoms for only one day, and 50% for four days. The rest of the admissions occurred at any time up to six weeks from the onset of symptoms.

X-RAY CHANGES

Of the x-ray changes on admission or at the onset of symptoms when the admission had occurred for some other reason, infiltration was by far the most common finding (83.2%), the second was effusion (55%), and the third was pneumothorax (21%). Only a small percentage of radiographs revealed atelectasis (15.2%), abscess

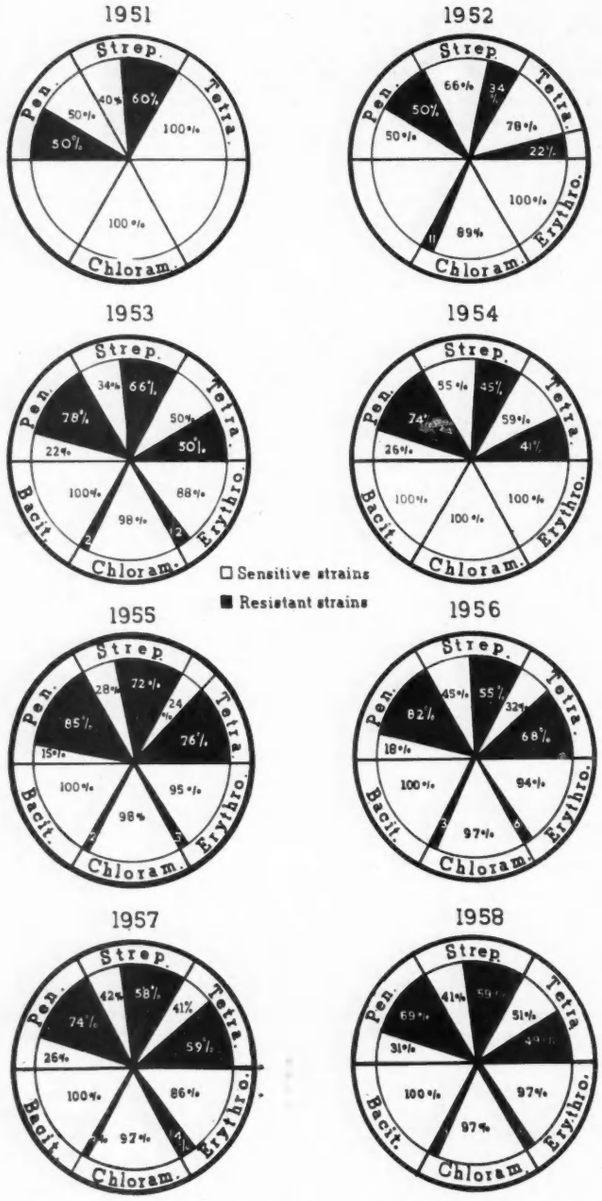

Fig. 2.—Percentage of sensitive and resistant strains of staphylococci tested against six antibiotics.

formation (7%) or pneumatoceles (6.2%). These findings were present in the right lung only in 65% of cases and bilaterally in 17%; the remainder had left lung involvement only. Apart from the chest findings, physical examination often revealed abdominal distension and some degree of shock.

Bacteriological Findings

On bacteriological investigation of all cases a pyogenic staphylococcus was grown in 51% from material obtained by Auger suction, in 12% from that obtained by bronchoscopic suction, and in 48% from chest aspirations. Only 2% had positive blood cultures, but this procedure was carried out in only a very small group of babies. Cultures taken post mortem were in all instances confirmatory. Most of the strains obtained were tested for sensitivity to various antibiotics. During the nine-year period under discussion, 1663 sensitivity tests were performed. The results are summarized in Fig. 2. The year 1950 is omitted, since only three patients were investigated. In 1951 and 1952, the numbers of penicillin-sensitive and penicillin-resistant strains were equal. From then on, a marked increase in the numbers of resistant staphylococci was found. In this regard, the difference was not as striking for streptomycin as for penicillin therapy. However, the figures emerging from this review did not show streptomycin to be the antibiotic of choice in the treatment of staphylococcal pneumonia. In 1951 the tetracyclines were thought to be very promising antibiotics. However, through the years a high percentage of resistant strains emerged. In contrast, only up to 14% of strains were found to be resistant to erythromycin and only 11% to chloramphenicol. No resistant strains to bacitracin have so far emerged, and all strains tested against novobiocin have shown sensitivity. The actual number of resistant strains found and their great increase over the years of the study are demonstrated in Fig. 3.

Evaluation of Antibiotic Treatment

Use of antibiotics and other methods of treatment employed over the past nine years is summarized in Table I. The one form of therapy not commented upon is supportive and intravenous therapy, since there has been no appreciable change in it. Up to 1953, penicillin, streptomycin and tetracycline were used in the majority of cases. Chloramphenicol had been used since 1951 but initially with reluctance, probably because of reports in the literature of ill effects on the bone marrow. Since 1954 an increasing number of patients have been treated with erythromycin and chloramphenicol, given most frequently in combination. This has coincided with a dramatic drop in the mortality rate. Bacitracin, intramuscularly, was given for 10 to 20 days to a few patients, without manifestations of toxicity. In the last two years (1957-58), albamycin was used very successfully in a few erythromycin-resistant and chloromycetin-resistant cases.

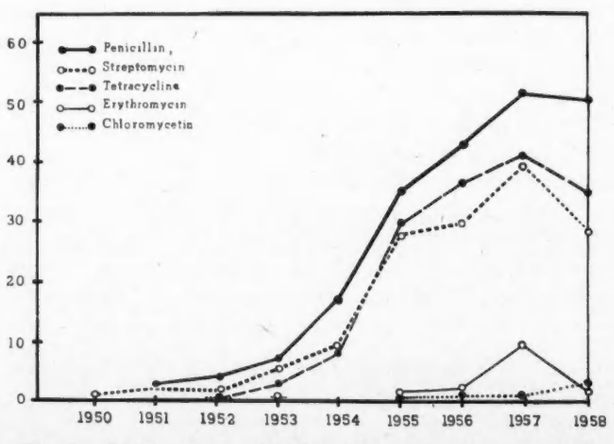

Fig. 3.—Total number of resistant strains over a nine-year period.

TABLE I.—PERCENTAGE OF PATIENTS TREATED WITH ANTIBIOTICS AND SURGICAL PROCEDURES

Year	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
Antibiotics									
Penicillin	100%	100%	100%	85%	62%	56%	53%	49%	47%
Streptomycin	33%	55%	64%	30%	31%	25%	21%	12%	8%
Tetracycline	33%	33%	36%	62%	46%	21%	6%	1%	2%
Erythromycin			9%	15%	50%	67%	87%	61%	68%
Chloramphenicol		33%	19%	23%	58%	81%	82%	73%	80%
Bacitracin i.m.						12%			2%
Pleural space drugs									
Penicillin	66%	44%	45%	38%	38%	19%	2%	14%	2%
Varidase			18%	23%	54%	77%	6%	7%	4%
Bacitracin i.pl.				15%	23%	77%	16%	7%	7%
Surgical treatment									
Thoracentesis									
single		11%		8%	19%	13%	12%	12%	27%
multiple	66%	44%	64%	46%	50%	40%	13%	10%	2%
Closed drainage		11%	18%	15%	23%	15%	50%	39%	32%
Open drainage		11%	18%	8%		23%	2%	5%	3%
Bronchoscopy					4%	21%	8%	6%	9%

Bacitracin and penicillin were also administered intrapleurally, either alone or in combination with varidase. These drugs were used in an increasing number of patients, up to 1955. The tendency in the past three years, however, has been away from intrapleural administration of antibiotics or proteolytic substances in favour of early closed drainage. The same applies for multiple chest aspirations. Up to 1955, 40 to 66% of patients had repeated chest aspirations, in some instances as many as 12. Until that time, also, varidase intrapleurally was used in up to 77% of patients. Since 1956, closed drainage was carried out in most patients as soon as pus reaccumulated after an initial needle aspiration or when the initial thoracentesis yielded abundant purulent fluid. Open drainage (rib resection), which had previously been performed on up to 23% of patients, became necessary in only 2 to 5% yearly. Bronchoscopic suction has been performed in 4 to 21% of children since 1954, the indication being the formation of a large abscess or atelectasis.

The duration of antibiotic therapy was reviewed. The long-term treatment with penicillin, streptomycin and tetracycline has been abandoned more and more in the last four years (1955-58). As far as chloramphenicol and erythromycin are concerned, no definite conclusion as to an optimal treatment period emerged. However, administration of chloramphenicol and erythromycin for more than one month was necessary in only a small group of patients.

The complications which developed after the initial x-ray was taken and while the patients were receiving treatment are summarized in Table II. The variation of the incidence rate in the various years could not be explained.

TABLE II.—COMPLICATIONS DEVELOPING WHILE PATIENTS WERE ON TREATMENT

Year	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
Pneumothorax	33%	11%	18%	15%	8%	33%	37%	10%	13%
Bronchopleural fistula					4%	10%	5%	2%	1%
Empyema				7%	4%	19%	6%	8%	10%
Abscess			9%	31%	12%	19%	15%	15%	11%

DURATION OF HOSPITAL STAY

An analysis of the duration of hospital stay for all patients (see Fig. 4) is not too revealing, since there was great variation in the length of stay. Of the 17 cases in hospital for over 10 weeks, the longest stay was 304 days (10 months). It would convey little meaning to state an average time of hospital stay. It is interesting, however, to consider the length of time in hospital of those patients who came to post mortem. Of the deaths 68% occurred during the first week of hospital stay

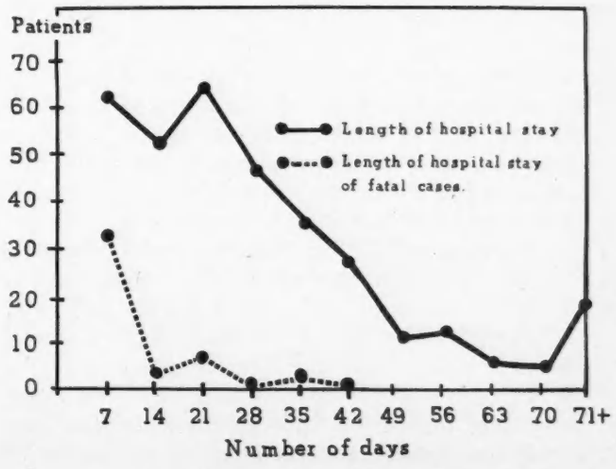

Fig. 4.—Length of hospital stay.

and, going into greater detail, one-fifth of the fatalities occurred on the day of admission.

MORTALITY

There were no deaths in 1950. In 1951, three of seven babies died (43%); in 1952, three of 10 (30%); in 1953, eight of 13 (61.5%); in 1954, three of 26 (11.6%); in 1955, eight of 46 (17.4%); and in 1956, nine died. However, one of them had a neuroblastoma and developed staphylococcal pneumonia after operation; he died 10 days later. This case is not included since the illness was complicated by malignancy. Thus, the corrected mortality for 1956 is 13%. In 1957, 13 children died. One of these had leukæmia; one, typhoid fever and he died of water intoxication; one, operated on for malrotation of the bowel, died of gangrene of the duodenum; and four were proven cases of Asian influenza with secondary staphylococcal infection. In the determination of the mortality rate of "primary" staphylococcal pneumonia these seven cases were excluded, so that in 1957 there were eight deaths among 84 patients (9.5%); in 1958, seven deaths among 78 patients (8.9%).

Of the 47 deaths, 39 occurred in the age-group under one year—that is, 83% of all deaths. Nine of these were newborns and nine others were premature babies. Thirty-five of the 47 patients (74%) had had hospital contact at some time in the six weeks before the onset of the pneumonia. Eleven (27.5%) had skin infections, one had a burn and two had measles. From six of the patients who came to post-mortem staphylococci were grown, fully sensitive to penicillin. At autopsy most had multiple abscesses in both lungs, and many had a positive blood culture and abscesses in other organs. Two were found to have staphylococcal meningitis. Pneumothorax was present in 17 cases; a bronchopleural fistula, in two; fibrinous pericarditis, in 16; peritonitis, in one; and pyogenic staphylococcal otitis media, in 11.

All fatal cases in the eight-year period and their treatment were critically reviewed in the light of the bacteriological and post-mortem findings. The following terms will be used: "adequate" or "inadequate" antibiotics, depending on whether the antibiotics used matched the sensitivity of the strain; "possibly inadequate antibiotics," when no sensitivity studies were performed and only penicillin, streptomycin or tetracycline was used as therapy; and "no drainage or inadequate drainage," for cases in which empyema, pneumothorax or pyopneumothorax was found at autopsy and in which no or only one thoracentesis had been performed. The summary of this review of the 47 deaths between 1950 and 1958 reveals that 11 had adequate treatment; one had adequate treatment but it was begun too late; six had adequate antibiotics but inadequate drainage; six had adequate antibiotics but no drainage; one had possibly inadequate antibiotics. Five cases had possibly inadequate antibiotics and no drainage; three, inadequate antibiotics; five, inadequate antibiotics and inadequate drainage; seven, inadequate antibiotics and no drainage; and two, no treatment.

DISCUSSION

The increase in frequency of staphylococcal pneumonias noted in this hospital and in reports by many others has led us to review our cases in a nine-year period, their clinical course, treatment and post-mortem findings.

The age distribution was the same as that found by Fisher and Swenson,[1] Wallman, Godfrey and Watson,[2] and Hendron and Haggerty,[3] in so far as 68% of all cases were under one year. In this age-group staphylococcal pneumonia is one of the gravest diseases with a high mortality. Of our fatalities, 83% were in infants under one year of age and 19% were in premature babies. Since only 3% of the total cases were prematures, it is clear that a staphylococcal infection in these babies has a poor prognosis. It also shows the need for meticulous nursing care and good health supervision on the part of the nursing personnel. While only 32% of the total number had a history of recent hospital contact, 74% of the fatalities belonged in this group; this should be a warning against admitting patients unnecessarily. A preceding skin infection seemed to make the prognosis graver, as 27.1% of those coming to post-mortem had skin infections while this number made up only 17% of the total group.

The increase in the number of strains of staphylococci resistant to penicillin, streptomycin, the tetracyclines and even to chloramphenicol and erythromycin, and the frequent presence of these strains in patients without previous hospital contact, are quite worrisome. On the other hand, the presence of a strain sensitive to all antibiotics does not necessarily guarantee a good prognosis, which is shown by the fact that in 12% of the fatalities staphylococci fully sensitive to penicillin were grown. However, the dramatic drop in the mortality from 61.5% to 11.6% in the following year (1954) has to be attributed to the use of more appropriate antibiotics, in this case chloramphenicol and erythromycin, which were the only changes of treatment made at that time. Fortunately only a small percentage of strains have shown resistance to these two antibiotics, and none to bacitracin. This latter drug was used intramuscularly on a few desperate occasions, with excellent results and without any evidence of nephrotoxicity.

Fisher and Swenson, and Wallman *et al.*, report that more than one-half of patients with staphylococcal pneumonia develop empyema. In this series, in 59% of patients effusion was found on initial chest radiograph and in 19% it developed during treatment. The fact that the *initial* chest radiograph shows only the mottled appearance

typical of staphylococcal pneumonia or some degree of atelectasis has no prognostic value, since empyema or pneumothorax can develop in a very short time, as demonstrated by Hendren and Haggerty. In 18 of the 47 fatalities infiltration and atelectasis were the only features present on the initial radiograph but pyopneumothorax developed, often within hours. This makes frequent examination of the chest of paramount importance. In patients with staphylococcal pneumonia chest radiographs should be taken frequently without hesitation. For patients with pleural effusion the rule advocated by Swenson, that if the initial thoracentesis yields more than 10 ml. of pus, a catheter should be inserted and a closed drainage set up, seems to be an excellent one. In the past three years most of the patients in this series were managed accordingly. If less pus was aspirated, follow-up radiographs were taken and if any reaccumulation of fluid or air was noted, an underwater drainage was started. Gentle suction was applied except in patients with bronchopleural fistula. Plugged catheters were rinsed with saline solution. At times a second catheter had to be inserted for drainage of a loculated collection. Thus it was seldom necessary to use proteolytic substances, an opinion with which other authors are in agreement.[1, 4] This method of treatment almost abolished the condition of a fibrothorax necessitating decortication, a finding stressed by Swenson. A very important factor in chest drainage seems to be the timing. The post-mortem findings in this series revealed that 11 of the fatalities had only one thoracentesis and had reaccumulated abundant pus and/or air at the time of death and that in 18 children no attempt at chest drainage had been made. If one considers that 20% of these children died on the first hospital day, the urgency for action becomes evident.

Head and Avery[5] advocate intracavitary suction of pneumatoceles. In this series they all subsided spontaneously, sometimes taking several months. Excision of lung because of progressive enlargement of cysts, necessary in two of Swenson's patients, was not necessary in any of our series. The presence of pneumatoceles or of pleural thickening after the acute stage of the disease, approximately four weeks after the temperature has become normal, is not an indication to continue antibiotics or prolong the hospital stay. In some it took three or four months before the chest radiograph was clear and in a few slight pleural thickening could still be seen after two or three years.

SUMMARY

A review of 329 treated cases of staphylococcal pneumonia in a nine-year period treated in the Hospital for Sick Children, Toronto, is presented; 47 came to autopsy. The mortality rate fell from 61.5% in 1953 to 9.8% in 1958. Antibiotics, including bacitracin, to which the individual strain of staphylococcus was sensitive, have caused the greatest reduction in mortality. Early and adequate drainage of the chest cavity and bronchoscopy where necessary are also prime requisites of successful treatment.

We gratefully acknowledge the assistance of Professor A. L. Chute, Dr. T. E. Roy (bacteriologist) and Dr. John Munn (radiologist) in the preparation of this paper; of Dr. John Barker and Dr. Harold Davies in the compilation of the data, and the staff members of the Hospital for Sick Children who so kindly allowed us to use their case records.

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RÉSUMÉ

Au cours de la période de 1950 à 1958 on a traité à l'Hôpital des Enfants Malades de Toronto 329 cas de pneumonie à staphylocoque dont 47 reçurent une confirmation anatomo-pathologique. Les garçons furent plus souvent atteints que les filles et 68% des cas se comptèrent chez les moins d'un an. On a observé une augmentation de fréquence de cette affection, jadis rare, chez les enfants d'âge scolaire (16% en 1958). Un certain nombre d'infections furent contractées à l'hôpital alors que l'enfant y était traité pour une autre raison. La rougeole semble une cause prédisposante de même que les eczémas infectés, les pustules et les abcès. L'auteur offre un rappel des tableaux clinique et radiologique. Dans 51% des cas on obtint des cultures positivés des exsudats obtenus par succion Auger, par bronchoscopie dans 12% et par thoracentèse dans 48%. Les hémocultures furent positives dans 2% des cas seulement mais très peu furent prélevées. Le tournant dans l'utilité de la pénicilline s'est produit en 1951-52 alors que les souches réfractaires ont dépassé 50%. Avec l'introduction d'antibiotiques nouveaux à mesure que les anciens perdaient de leur efficacité, on a pu abaisser la mortalité de 61.5% en 1953 à 9.8% en 1958. Le traitement actuel est fondé sur l'emploi conjugué d'érythromycine et de chloramphénicol pendant habituellement moins d'un mois. On y ajoute aussi, si nécessaire, le recours précoce à la bronchoscopie et au drainage de la cage thoracique par pleurotomie à minima. L'examen du thorax doit être répété fréquemment puisque l'épanchement pleural ou l'empyème peuvent se produire très rapidement.

IMPERATIVES FOR SURVIVAL

With more effective control of the long-term illnesses, communities should enjoy more abundant health. Quantitative extension of the life span which is now taking place may well prove a curse rather than a blessing. Additional years to the life span without corresponding development of the powers of senior citizens so that they may participate in the work of the world and continue as sustaining members of society may threaten the solvency of the nation. Teen-agers of today and young adults in 25 or 30 years cannot be expected to maintain some 30,000,000 citizens over 60 years of age, if the latter are not contributing members of society. Parasitism is a form of social invalidism. For their own benefit and the protection of society, the active participation of senior citizens in the working world should be maintained at all costs.—E. L. Bortz: *Tr. & Stud. Coll. Physicians Philadelphia*, 27: 108, 1960.

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THENALIDINE TARTRATE (SANDOSTENE) AS AN ADJUVANT IN COURSES OF SPECIFIC DESENSITIZATION

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INTRODUCTION

THE ANTI-ALLERGIC properties of thenalidine tartrate (Sandostene) used alone or in combination with injectable calcium (Sandoz) have been reported upon many times in the past. Huber[15] wrote on the effect of thenalidine in the reduction of vascular permeability. Bigliardi[2] showed the lack of effect of this product in certain forms of allergy such as chronic urticaria, eczema and neurodermatitides with pruritus, but he emphasized its efficacy in essential pruritus, acute urticaria, urticarious eczema, drug eruption and allergic rhinitis, and in the prophylaxis of allergic intolerance during courses of specific desensitization. Essellier, Forster and Morandi[9] of Professor Löffler's clinic in Zurich have also demonstrated the usefulness of this drug in pruritus, urticaria, drug eruption and transfusion reactions, and to a lesser degree in bronchial asthma. Jerome Miller of Philadelphia[17] noted the efficacy of thenalidine in 81% of patients with various allergic manifestations, with a minimum of side effects; it is tolerated better than any other antihistamine drug. This last property is particularly appreciated by patients who cannot tolerate steroids or in whom there are contraindications to their use—hypertension, pulmonary tuberculosis, peptic ulcer, severe diabetes, etc.

In dermatological therapy, similar results were reported by Getzler and Ereaux[12] of Montreal in 500 cases of various cutaneous manifestations studied for a period of five years. In January 1958, Gaynes and Shure of Los Angeles[11] compared thenalidine with five other antihistaminics and a placebo, and found that it was symptomatically superior to any other in allergic rhinitis and acute urticaria although it was less efficacious in asthma and in atopic dermatitis. (Side effects were noted in 17% of cases but they were slight and transient.) La Mantia *et al.*[16] of Chicago have re-evaluated the action of thenalidine in asthma and concluded that thenalidine with calcium is an efficacious drug combination well tolerated in the treatment of chronic bronchial asthma. Best results have been obtained in older patients who were also suffering from cardiac decompensation aggravating their respiratory condition. Similar conclusions have been reached by other authors, among whom are Gottlieb and Yanoff[13] of Philadelphia, Smith[23] of New Jersey, Teverbaugh[24] of California, Dobes[8] of Atlanta, Parker[19] of St. Louis, Mo., van der Bijl[3] of Amsterdam, and Garbe[10] of Toronto, who was the first in Canada to publish his results.

As a rule, according to these authors thenalidine either alone or with calcium is of great value in the symptomatic therapy of all kinds of allergic manifestations. In approximately 80% of cases it will bring rapid and lasting alleviation of symptoms short of a cure which may be obtained by a specific anti-allergic course of desensitization; however, such treatment is slow in producing results. The symptomatic effects of thenalidine are all the more important to the allergist on account of the rapidity with which they are obtained even though they may be only transient.

PRESENT STUDY

The present paper is based on the study of patients treated at the allergy department of the Lavoisier Institute where specific courses of desensitization are given. Approximately 200 cases have been selected for this purpose out of more than 1000 charts of patients under treatment for various allergic manifestations (particularly asthma, allergic rhinitis and sundry cutaneous manifestations, such as eczema and dermatitis). About 10% of patients undergoing this treatment show, either before the course of desensitization becomes effective or during the course itself, a persistence or a recrudescence of their initial symptoms. Even new symptoms may appear, necessitating the addition of symptomatic non-specific anti-allergic or anti-inflammatory medication to the desensitizing injections.

The number and variety of drugs used in these instances show that the medication is non-specific, that the results are unstable, and that the allergic manifestations are protean. For example, in urticaria and eczema, the following have been used: prednisone (Meticorten), methylprednisone (Medrol), triamcinolone (Aristocort, Kenacort), dexamethasone (Decadron, Deronil), ACTH with carboxymethylcellulose (Duracton), ACTH I.V. (Acton X), hydrocortisone (Neocortef), same in silicone cream (Barriere H.C.), wet dressings, promethazine (Phenergan), phenyltoloxamine lotion with zirconium (Bristamine), and chlorprophenpyridamine (Chlor-tripolon). In asthma and rhinitis the following have also been used: hydrocortisone with vasoconstrictors (Vasocort), prednisolone with vasoconstrictors (Metimycin), triamcinolone with chlorpheniramine (Aristomin), prednisone with carbinoxamine (Colihist), ACTH zinc (Cortrophin zinc), inhalers of epinephrine bitartrate, isoproterenol, phenylephrine HCl (Medihaler, -iso, -epi and -phen), sulfamethoxypyridazine (Kynex), sulfadimethoxine (Madribon), theophylline ethylenediamine (aminophylline), dihydroxypropyl theophylline (Dilin), dihydrocodeinone bitartrate and methamine (Mercodol with Decapryn), pyrilamine

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Ce travail paraîtra en français dans *l'Union Médicale du Canada.* N.D.L.R.

TABLE I.

Groups	*A*				*B*				*C*				*Total results*		*D*
Diagnosis	*Dermatitis*				*Asthma*				*Rhinitis*						*Controls*
Subgroups	1		2		3		4		5		6				7
Medication	T+		T		T+		T		T+		T				–T
Total treated	35		18		51		36		13		32		185		
Rejected cases	2		2		7		5		1		3		20		
Total studied	33		16		44		31		12		29		165	(100%)	
Made worse	0		1		0		0		0		0		1	(0.6%)	
Unchanged	6		2		5		7		1		4		25	(15.1%)	
Slight improvement (about 25%)	2	*7.4**	2	*15.3*	6	*15.3*	3	*12.5*	1	*9.1*	7	*28.0*	21	*15.1*	44.4%
Moderate improvement (about 50%)	14	*51.8*	3	*23.1*	18	*46.1*	8	*33.3*	4	*36.3*	3	*12.0*	50	*36.0*	22.2%
Considerable improvement (about 75%)	8	*29.6*	4	*30.8*	10	*25.6*	6	*25.0*	1	*9.1*	8	*32.0*	37	*26.6*	22.2%
Complete subsidence of symptoms (100%)	3	*11.1*	4	*30.8*	5	*12.8*	7	*29.1*	5	*45.4*	7	*28.0*	31	*22.3*	11.1%
Total No. of improved cases	27 (81.8%)		13 (81.2%)		39 (88.6%)		24 (77.4%)		11 (91.7%)		25 (86.2%)		139 (84.2%)		9
Side effects	1		1		1		4		1		3		11 (6.7%)		

*Figures in italics represent the percentage in each category of the total number of improved cases per subgroup.

maleate (Neo-antergan), trypsin (Merenzyme), same with chymotrypsin (Orenzyme), oral streptokinase and streptodornase (Varidase), potassium iodide, neomycin and bicetonium (Bionet plus Mycifradin). In an attempt to simplify and codify this symptomatic medication, thenalidine has been compared with all the above-mentioned drugs used as symptomatic adjuvants.

CLASSIFICATION

The patients were divided into three main groups: (a) dermatitides, eczemas, and similar cutaneous manifestations, 53 cases; (b) asthma, 87 cases; (c) allergic rhinitis, 45 cases.

The etiology of the allergic manifestations derived from the course of desensitization and the nature and intensity of these reactions were not taken into account. For the purpose of comparing results each group was subdivided into two subgroups: the first was made up of patients who had received thenalidine alternately or simultaneously with other anti-allergic medications, and the second, thenalidine alone. A fourth group, of controls, was used as a baseline for comparison (see Table I): patients with the same diagnoses as the first three groups and whose condition had improved to some extent with use of the other anti-allergic medications mentioned above. As this group was made up of patients treated before the onset of this present study and as the authors did not expect a statistical difference in the total improvement obtained with thenalidine or with any of the other methods of treatment, this control group was analyzed only with regard to the degree of improvement obtained and not in its relation to this study, to which it does not strictly belong. The statistical evaluation of results has been presented in six groups: (1) patient made worse; (2) unchanged; (3) slightly improved (that is, 25% approximately); (4) moderately improved (50% approximately); (5) considerably improved (75% approximately); (6) disease completely controlled, implying a total disappearance of symptoms (100%). A special section has been devoted to the side effects when new collateral symptoms were noted in patients receiving thenalidine (alone or in combination with other medication), particularly if these symptoms called for a modification or an interruption of thenalidine therapy.

MANAGEMENT OF TREATMENT

Thenalidine was used mostly in the form of sugar-coated tablets containing 25 mg. of active substance. In certain instances, particularly with patients in hospital, thenalidine in association with calcium (Sandoz) in ampoules of 10 c.c. containing 50 mg. of thenalidine and 1.375 g. of calcium glucono-galacto-gluconate was administered intravenously. The ointment for topical application was also used a few times in cutaneous manifestations but always with oral or intravenous thenalidine. The usual dosage was four tablets a day (100 mg. total). Patients were issued a certain number of tablets—usually enough to last them for 21 days. Prescriptions were renewed on request when the medication produced some benefit; otherwise they were stopped.

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ANALYSIS OF RESULTS

I. Table I shows the classification in three groups and subdivided in two subgroups according to whether thenalidine was employed in association with one or more of the drugs quoted above or used alone. It must be noted that:

1. Of 185 charts studied 20 were discarded because of insufficient information on results of therapy. The results are therefore based on 165 cases.

2. Only one patient was made worse; that is, the symptoms for which the medication was given were aggravated to the point that the medication was stopped.

3. Side effects were attributed to thenalidine in 11 cases. These will be reviewed in a special section.

4. No benefit accrued to 25 patients or 15% of the series.

5. A total of 139 patients (84.2%) was improved to varying degrees. These cases will be studied in the next section.

II. Analysis of improvement by categories (Table I) shows that of 139 cases, 31 had their symptoms completely controlled (22.3%); 37 were much improved (26.6%); 50 had average improvement (36.0%), and 21 slight improvement (15.1%). Total figures for thenalidine alone or with other medications as compared with the control group are given in Table II.

TABLE II.

	Thenalidine	*Control group*
Symptoms completely controlled	22.3%	11.1% other medication
Considerable improvement	26.6%	22.2%
Average improvement	36.0%	22.2%
Slight improvement	15.1%	44.5%

III. Comparative analysis of the figures given for total number of improved cases (Table I) reveals that in cases of dermatitis, thenalidine alone is comparable to thenalidine combined with other medications, whereas in asthma and in rhinitis it is slightly less efficacious. It must be noted here that in certain cases of asthma, thenalidine and injectable calcium form a useful complement to ACTH therapy.

The degree of improvement obtained with thenalidine either alone or with other drugs (Table I) is as follows:

(a) In the 139 cases where symptoms subsided completely, 31 patients or 22.3% have been improved to such an extent that they are considered cured and any further medication has been discontinued. In the control group only 11% have reached that stage. In these 31 cases, only 30.8%, 29.1% and 28% respectively can be credited to thenalidine alone, whereas 11.1%, 12.8% and 45.4% belong to the group of combined drug therapy.

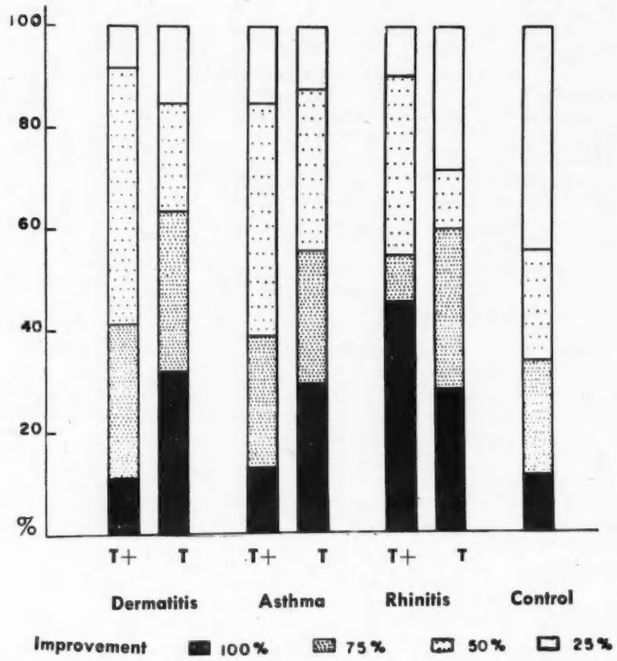

Fig. 1.—Degree of improvement in per cent. This shows only the extent to which 100 patients were improved in each category and for each type of treatment and is not a general table of results as presented in Fig. 2.

(b) In cases where considerable improvement was recorded (with about 75% subsidence of symptoms) the results are almost equally divided among all groups except that of rhinitis where the largest number with complete control of symptoms with thenalidine added to other drugs had already been recorded.

(c) The figures for average improvement (subsidence of 50% of symptoms) are distinctly in favour of combined therapy.

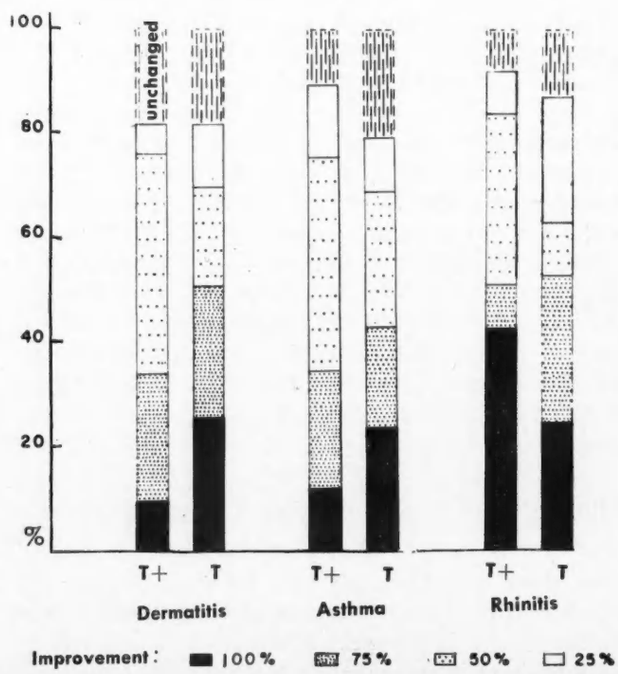

Fig. 2.—Results from thenalidine used alone or in combination.

(d) Since therapeutic achievement in the group of slight improvement (subsidence of 25% of symptoms) is not impressive, the difference between the two types of treatment does not matter much; thenalidine alone seems more efficacious than combined therapy, except in asthma.

SIDE EFFECTS

Side effects have been mentioned in the table simply to indicate their statistical incidence. It may be noted that they have been reported by patients 11 times out of 165 cases studied (6.7%). They can hardly be classified, on account of their great variety. Among them, two were urinary symptoms; one, asthenia and abdominal pains; one, pyrosis; one, deafness and nausea; one, asthenia and dizziness; one, paralysis of the right arm; two, vertigo; two, drowsiness.

We have purposely omitted pruritus from the side effects as it may well be related to the original allergic disorder and not necessarily to the use of thenalidine. Only once did the pruritus increase during treatment, thus calling for discontinuation of therapy. This case was considered as having been made worse. In some other instances, side effects have been severe enough to warrant stopping the medication; these cases have been classified as unchanged. In certain cases of drowsiness and vertigo, reduction of dosage was enough to cause subsidence of symptoms.

It is well recognized that many synthetic drugs can potentially affect the hæmatopoietic system, especially in the case of elderly and allergic patients. Several widely used antihistamines have been the subject of reports in this connection. Sandostene has also been implicated but with what seems to us inconclusive evidence.[27] In line with the report by Getzler and Ereaux,[12] we have, nevertheless, limited treatment with Sandostene to a period not exceeding three months and have instructed the patients to stop medication and report to us at once should such typical symptoms as elevated temperature, boils, or sores of the mouth or throat be noticed. Such precautions proved in no way restrictive and no incidents were encountered.

DISCUSSION

It is certainly very difficult, particularly in the clinical field, to evaluate the efficacy of a therapeutic agent in terms of percentage. Among the various snags that must be avoided before starting treatment are the question of using placebos in patients whose symptoms require immediate alleviation, of substituting for drugs of known action others to be studied, and of the cooperation of anxious patients who may not trust new drugs and wish to resume customary therapy, the difficulty of assigning numerical values to symptoms and signs and, finally, the relatively small number of cases available in each subgroup. However, from the analyses of the various tables we can draw the following conclusions:

1. The total effect of combined therapy in the form of thenalidine plus other antiphlogistic drugs, particularly the steroids, seems clearly superior to that derived from these other drugs alone.

2. From the point of view of total improvement, thenalidine alone does not seem to offer anything over thenalidine combined with other drugs except in dermatitides and in cases where intravenous administration is required. This will be further elaborated in the next paragraph.

3. The figures of the detailed breakdown of improvement favour the use of thenalidine alone which completely controlled the symptoms in a large number of cases (29% as against 17%). This also holds true for the number of patients who were considerably improved (29% as against 24.7%). However, it must be borne in mind that the number of cases in each category is very small (between 3 and 7 in the first group, and 4 and 10 in the second). These will not stand statistical analysis. It must also be added that thenalidine alone was usually given only to patients whose symptoms were rather mild, as we did not wish to risk the use of a single medication in cases of status asthmaticus or of generalized eczema.

4. Regardless of the medication used, 10 to 15% of cases remained unchanged.

5. Side effects were variable and may not always have been related to the use of thenalidine. In any event they were few and seldom called for withdrawal of the medication.

It is worth noting that intravenous thenalidine in doses of 50 mg. in 100 to 200 c.c. of glucose solution has never caused any side effects and seems more effective than much higher doses by mouth. A number of patients suffering from severe asthma or eczema refractory to most forms of treatment have derived considerable benefit from this method of administration. We have the general impression that thenalidine by mouth gives excellent results in urticaria, good results in hay fever, fair results in chronic rhinitis, and insufficient results in eczema and asthma.

SUMMARY AND CONCLUSIONS

A study was made of the use of thenalidine tartrate in 185 patients undergoing a course of specific desensitization for one form or another of allergy. This drug was found to be a good adjuvant to therapy in controlling allergic symptoms of cutaneous allergy, asthma and allergic rhinitis during the course of desensitization.

Its use is quite harmless and is even recommended in cases where steroids are contraindicated or dangerous. When used alone, its effect is slightly inferior to that of its combination with other medications, particularly in allergic rhinitis and asthma. On the other hand, when used alone by intravenous injection it seems superior to all other combined medications, particularly in patients with dermatitis. Unfortunately the number of cases presented in this paper is not large enough to allow any statistical conclusions.

It is well to bear in mind the total cost of medication in selecting drugs for combined therapy and to consider them not only from the point of view of treatment but of prophylaxis of the allergic manifestations studied in this paper.

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THE UBIQUITOUS STAPHYLOCOCCUS DOES NOT ALWAYS SHOW ITS TRUE COLOURS

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WHEN WE attended medical school some years ago it was all made very simple. There were three types of staphylococci: *Staphylococcus aureus*, the golden type; *Staphylococcus albus*, the white type; and *Staphylococcus citreus*, the lemon yellow type. The golden type was presented to us as the pathogen of the three types and the types were portrayed to us as being as immutable and unchangeable as Holy Writ.

The qualifying terms hæmolyticus and non-hæmolyticus were also accepted, as the possession of this property was said to be connected with pathogenicity.

Now that this somewhat lowly organism, for so many years looked upon with disdain, is making the greatest comeback in the history of the disease-producing organisms, we are being forced to take a longer and clearer look at it. Having done so, we are becoming aware of a surprising ignorance with respect to its true nature.

Our bacteriological confreres have tried to be helpful but, like the squid with his ink, they have retired behind their microscopes and thrown a great cloud of confusing nomenclature about the whole subject.

The existing nomenclature was first modified using the terminology introduced by Rosenbach in 1884.[1] Thus the word pyogenes was inserted between the two common names known to everyone. This gave rise to *Staphylococcus pyogenes aureus*, *Staphylococcus pyogenes albus*, etc. Not being satisfied with this someone insisted on adding var. We were thus confronted with *Staphylococcus pyogenes* var. *aureus*, etc.

Having thus impressed those who would inquire too closely into the subject, the *coup de grâce* was administered by picking out a somewhat diminutive member of the aureus family which did not liquefy gelatin with the same rapidity as the other members of its family and calling it *Staphylococcus salivarius pyogenes*. For good measure, the name *Staphylococcus epidermidis albus* was coined for the non-pathogenic variant of the albus tribe commonly found on the skin.

This nomenclature had been barely digested by suffering medical students and clinicians when the term staphylococcus was discarded entirely by many of our confreres and the word micrococcus used, to replace it. Thus we had *Micrococcus pyogenes* var. *aureus*, *Micrococcus* var., etc., about for a time. Gradually, however, a certain degree of sanity prevailed and the term staphylococcus was returned to favour.

However, a number of investigators have been able to show that white, golden or even lemon-coloured strains of staphylococci under certain conditions of growth may arise the one from the other.[2-6] Thus pigment production can no longer be considered a constant characteristic. Pigmented colonies may give rise to non-pigmented colonies and white colonies may give rise to pigmented colonies. The difference between the various colours of staphylococci would appear then to be one of degree and not of kind. Appending a third name to the staphylococcus merely indicates that, in general, under ordinary circumstances, the particular organism being worked with tends to show certain colour characteristics.

Some fast footwork was certainly indicated and our confreres were not found wanting.

The seventh edition of Bergey's *Manual of Determinative Bacteriology*, the "American Bacteriological Bible", now considers aureus, albus and citreus as varieties of the one species, *Staphylococcus aureus*. Confusion was compounded elsewhere by introducing three new species names—

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Staphylococcus lactis, Staphylococcus roseus and *Staphylococcus afermentans*—and others.

The presence or absence of hæmolytic activity was one of the points which we also were prone to accept as of great importance when we were students. It is now quite definite that this characteristic is variable under certain conditions and further that many non-hæmolytic staphylococci are just as pathogenic as the hæmolytic types.[5, 7] The old term *Staphylococcus aureus hæmolyticus*, therefore, is merely descriptive of a certain strain under certain conditions and is meaningless as far as pathogenicity is concerned.

This brings us to the question of determination of pathogenicity, and here again the staphylococcus has bacteriologists tumbling out of their ivory towers all over the place.

It was formerly considered that if the staphylococcus liquefied gelatin—that is to say, was proteolytic—this was an indication of its pathogenicity. It has now been known for many years that the proteolytic activity of the organism is not at all indicative of its pathogenicity.[7, 8]

Our confreres have long ago run the gamut of the biochemical reactions of the organisms in an endeavour to reveal an authentic indicator of pathogenicity. Of these only mannite fermentation has retained any permanent favour whatsoever and recently even this has been shown to be unwarranted.[7, 8]

Serological classification on the basis of a precipitation test has been tried by a number of investigators and found wanting as far as an index of pathogenicity is concerned.[9, 10]

The only one of the earlier standby's that has stood up at all to the test of time is the coagulase test, that is, the ability of the organism to coagulate blood plasma. Daranyi[11] first called attention to the usefulness of this test as an index of pathogenicity. Many eminent bacteriologists still maintain that this procedure is above reproach. Others, however, have their doubts.[6, 8] The situation has not been helped by the discovery of the fact that different colonies of staphylococci from the same culture may produce different coagulase reactions[12] and by the fact that the same strain may occasionally vary in its coagulase reaction.[13] Finally, bacteriologists are aware that the reaction differs with the type of culture medium on which the organism is grown.

Since phage types are available only for coagulase-positive staphylococci and the coagulase reaction has not been entirely acceptable as an index of pathogenicity, the development of phage typing has not provided the final answer either.

The work of Barber and Kuper[12] and of White and Pickett[14] has shown a definite correlation between the phosphatase production of the staphylococcus and its coagulase reaction. The latter authors suggest that the phosphatase test might well replace the coagulase test because of the vagaries of the latter.

Marks[15] considers that evidence of the production of an alpha-hæmolysin by the staphylococcus is one of the most reliable indices of pathogenicity.

A recent article[8] suggests that hyaluronidase production by a staphylococcus as revealed by the ammonium molybdate reaction is indicative of or related to its pathogenicity based on invasive types of infection. In this investigation the ammonium molybdate reaction was correlated with the pathogenicity of the organism to white mice and with the coagulase reaction. In the opinion of the author there was no apparent relation between the ammonium molybdate reaction and the coagulase reaction but it was felt that the former was a better index of pathogenicity.

SUMMARY AND CONCLUSIONS

Pigment production and hæmolytic activity by the staphylococcus have been shown to be extremely variable traits, for the most part unrelated to pathogenicity. Proteolytic activity, mannite fermentation and serological identification have been tried and largely discounted as indices of pathogenicity. The reliability of the coagulase reaction as an index of pathogenicity has been questioned by several authorities and the reaction itself is subject to variability under certain conditions. Recent work attempts to show that the phosphatase activity of the organism and in particular hyaluronidase production may be better indices of pathogenicity than the coagulase reaction.

"Progress" has now advanced to the stage where a recent text[13] on the staphylococcus lists in its index no less than 18 names referable to these organisms. It is extremely improbable that we have any single test that will invariably tell a pathogenic staphylococcus from a non-pathogenic staphylococcus, although we do have one, the coagulase test, which is fairly reliable. The whole business, therefore, boils down to the fact that, regardless of nomenclature, if a staphylococcus is found in pus, it must be assumed to be pathogenic until proved otherwise. These little groups of gregarious dots must, therefore, as yet be said to have had the last word. They have led us down the garden path of confusing nomenclature and left us with but little indication of their true nature except our ability to judge them by the company they keep.

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RÉSUMÉ

L'auteur se remémore le temps où l'on enseignait à l'école de médecine que les staphylocoques se divisaient en trois groupes, les dorés, les blancs et les jaunes. Mais si le microbe a fait beaucoup de chemin depuis, les bactériologistes n'ont pas perdu leur temps. En plus d'introduire la différence entre les hémolytiques et les autres, on a ajouté la notion de variété et finalement l'intérêt attaché à la faculté de liquéfier ou non la gélatine a complété la confusion. A peine avait-on eu le temps de s'y habituer que cette terminologie fut remplacée par celle de *micrococcus* mais le vocable de staphylocoque a depuis repris le haut du pavé. On a découvert un jour que la teinte n'y faisait rien puisque d'une souche d'une couleur pouvait sourdre une souche d'une autre couleur qui elle-même pouvait donner naissance à une troisième de couleur différente. La bible bactériologique américaine, comme on désigne familièrement le manuel de Bergey, n'a pas tiré de l'arrière: sa 7ième édition contient maintenant entre autres les espèces *lactis, roseus* et *afermentans*. La détermination de la pathogénicité du staphylocoque a depuis quelque temps jeté l'émoi chez les bactériologistes et les a défenestrés de leur tour d'ivoire. La réaction de la coagulase que plusieurs considéraient comme le critère par excellence dans ce domaine ne semble pas mériter toute la confiance qu'on lui attribue puisqu'elle varie avec les différentes colonies d'une même culture et aussi selon la composition du bouillon de culture. On a suggéré de la remplacer par le dosage de la phosphatase ou l'α-hémolysine. Mais y gagnerait-on en précision? L'auteur en vient à la conclusion que jusqu'à nouvel ordre, il considérera comme pathogène tout staphylocoque trouvé dans le pus, selon l'adage: "Dis-moi qui tu hantes . . ."

FOLLOW-UP STUDIES ON PEPTIC ULCER PATIENTS TREATED WITH ROBUDEN

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PEPTIC ULCER has for many years been the subject of numerous speculative and controversial discourses which have not always been helped by a large body of experimental studies. In recent years an attempt has been made to unify the various theories on the etiology and pathogenesis of the ulcer lesion by seeking some basis common to most or all of the divergent views. This attempt has been greatly facilitated by recognizing that the ulcer produced experimentally in animals is not identical with the ulcer which occurs spontaneously in man and that such experimental data must be used with caution.

An examination of the different theories of ulcer formation leads to the opinion that while, unquestionably, nervous and vascular factors are involved, and hypersecretion and hypermotility play an important role in the maintenance of the chronicity of the ulcers, there is also a factor which is common to all theories. Usually implied rather than expressed in most of the theories on ulcer formation is the question of local tissue susceptibility. The reparative processes which are in constant operation must in some manner be impaired locally for the injury to give rise to a peptic ulcer lesion.

Peptic Ulcer, a Deficiency Disease

In line with this reasoning, a number of students of the ulcer problem have reached the conclusion that peptic ulcer is essentially a deficiency disease. According to this view, the integrity of the bowel is maintained by reparative forces which are due to anti-ulcer factors. Several investigators have suggested that the intestine is the site of elaboration or of deposition of a somatotrophic principle. Deficiency of this principle from the bowel mucosa makes the bowel susceptible to the various noxious agents, resulting in an ulcer.

With a view to obtaining an agent for the treatment of peptic ulcer, several attempts have been made to concentrate the anti-ulcer factor from gastro-intestinal tissue. Although Rivers in 1925 and Greengard *et al.* in 1946 reported beneficial effects in 50 and 58 ulcer patients respectively, treated with extracts of intestinal mucosa, the results in the hands of other investigators were on the whole disappointing. In retrospect it is now known that the preparations used by most of these investigators were actually enterogastrone concentrates. These preparations had been assayed for potency to depress acid gastric secretion but had never been subjected to tests for anti-ulcer activity.

Failure of the American investigators to concentrate the anti-ulcer factor fortunately did not discourage European workers on the ulcer problem. Swiss investigators prepared a protein-free aqueous fraction from gastro-intestinal tissue which they believed to be potent in the treatment of peptic ulcer and designated it "Robuden". As early as 1944 a number of Swiss internists and gastroenterologists reported good results in therapy of proved cases of ulcer with Robuden[1-3, 5] and soon, favourable reports were forthcoming from Spain,[6] Switzerland,[4] Mexico,[9] France[10] and Denmark.[7] Among other most recent studies were those reports by Roth,[11] Notkin,[12] Glass *et al.*,[13, 16] Evans,[14] and Pohle.[15]

While the characteristics of duodenal ulcer and the incidence of occurrence are approximately the same in North America as in European countries, there are differences in the mode of treatment and in the criteria for an established cure; this is some-

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times not recognized. Since, with very few exceptions, all reports on ulcer therapy with Robuden have to date come from European clinics, it was decided that examination of its merits in ulcer treatment by American standards was desirable. Accordingly clinical evaluation of the thesis that peptic ulcer was essentially a deficiency disease was undertaken by the method of substitution therapy with Robuden.

Difficulties in Assessing Therapy

Assessment of the specific efficacy of a therapeutic agent for peptic ulcer is difficult. To rule out the possibility that the so-called cure is actually a phase of spontaneous remission, it is necessary that the observation periods on each patient be extended to more than one year, preferably to at least two years. While the unconscious factor of psychotherapy during treatment may be present, its effect is greatly minimized by having the patient pursue the activities and follow the regimen which were his before the therapy in question was instituted. The use of placebos is desirable but not indispensable: failure to respond favourably to other forms of therapy ensures that most patients will have had an adequate control period.

Most important perhaps in the evaluation of the patient's progress under a regimen of management is a follow-up period of adequate duration. While the significance of the observations increases with increase in the length of the follow-up period, the factor of diminishing returns is soon introduced. The patient becomes indifferent to questionnaires; another chronic disability displaces ulcer disease in importance in the patient's mind; or the patient dies. These are a few of the frustrating factors which make collection of information progressively more difficult with time. In the present investigation records of complete follow-ups were obtained for 62.5% of patients treated for two years and for 62.5% of those treated for four years. These are generally regarded as high follow-up ratios and are exceeded only in such studies as those on cancer which deal with postoperative survival rates.

Material Used

The material used in this investigation, available commercially under the trade name Robuden, was administered in both injectable and oral forms. The injectable material is an aqueous protein-free fraction derived from the gastro-intestinal tissues of freshly slaughtered young farm animals. The water-soluble material, at pH 6.25, had a total nitrogen concentration of 11.2% of the dry residue. Assays for histamine, cholinergic bases, and vitamin B_{12} were negative. Robuden was without effect on gastric secretion. The oral form of Robuden represented the residue of the gastro-intestinal tissues remaining in the extraction process after recovery of the aqueous material referred to above. This was made available to the patient in tablet form. The patient receiving both the parenteral and oral Robuden was thus supplied with all the substances of the tissues of the small intestine and stomach in concentrated dosage.

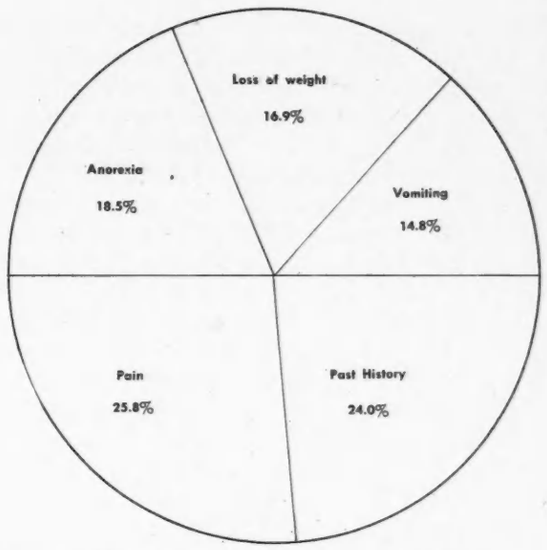

Fig. 1.—Major reasons for present consultation.

CASE MATERIAL

The present series of patients consisted of 104 men, aged 20-69, and 32 women, aged 19-53. A history of ulcer of six months' to 16 years' duration was obtained among the men but the duration of ulcer symptoms was more difficult to determine among the women. Bouts of typical ulcer symptoms three to eight times a year occurred in both men and women but no patients had continuous ulcer pain. Several patients with total disability from ulcer required operative intervention, but these are not included in our present series. Vomiting, anorexia and loss of weight were general findings. Constipation was present in only a small number. More than half of the patients came to us because of pain or severe discomfort, past and present. The other patients, while admitting to pain, were seen first by us primarily because of anorexia, hæmorrhage, etc. Data pertaining to age of onset of symptoms, duration of symptoms, and major presenting symptoms are shown graphically in Figs. 1, 2 and 3. In Fig. 1 are shown graphically the percentage of complaints which constituted the principal reasons for the patients' coming to our attention. It should be emphasized, however, that all patients exhibited nearly every one of the symptoms to a greater or lesser degree. Thus, while weight loss was experienced by 80% of a series of patients (Table IV), it constituted a major complaint in only 16.9% of the patients.

Our typical ulcer patient was usually placed on a conventional ulcer routine by his family or clinic physician. This afforded him a fair amount of relief,

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Fig. 2.

enough to permit him to carry on his duties, and nearly always consisted of alkalis, belladonna, and anticholinergic drugs. He had to pay strict attention to the diet and abstain from items interdicted by his doctor. However, even with the most meticulous observance of an ulcer regimen the typical patient still experienced three or four crippling ulcer attacks each year, and volunteered the information that the condition was becoming worse with time and asked if a surgeon could not bring relief.

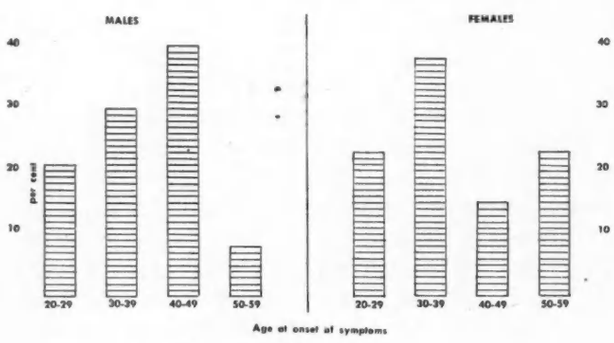

Fig. 3

REGIMEN IN PRESENT STUDY

1. *Dosage.*—During the first month of treatment patients received daily, for 24 days, one intramuscular injection of 1 ml. Robuden, and one tablet three times a day. The treatment was continued by taking one tablet, three times a day, during the first ten days of each month.

To prevent relapses, the oral treatment was continued for two years, and when necessary even up to four years. In case of relapse, another course of injection was given.

2. *Diet.*—Patients were told to avoid foods they knew would give trouble; fat, and rough vegetables, such as cabbage, etc., were to be kept to a minimum. However, no strict ulcer diet was prescribed.

Patients were advised to cut down the consumption of tobacco and alcohol.

3. *Rest.*—No bed rest was employed; the patient followed his usual occupation.

4. *Other drugs.*—Only in a very small percentage of cases were anticholinergics and/or antacids given together with Robuden. Experience did not show that a combination of Robuden with these drugs is of great help.

RESULTS

In all patients included in this study we established the diagnosis of duodenal ulcer on the basis of history, physical examination, laboratory tests, including gastric series, and radiological evidence of an ulcer lesion. During the course of treatment the patient was seen by us at intervals and the course of the ulcer condition checked repeatedly. Follow-up studies were made whenever possible and the data on which conclusions drawn here are based were obtained in the final follow-up 14 to 48 months after initiation of treatment with Robuden.

Since most of the patients in this study had been under some form of therapy previously, it should be noted that while Robuden was being used, other forms of treatment were discontinued.

The overall results of treating 136 patients (104 men and 32 women) are presented in Table I. Rigid criteria were applied to evaluate the effectiveness of the therapeutic regimen. Treatment was considered to have been a failure when even one of the following *did not* occur: reduction in frequency of ulcer attacks per year or shortening of length of periods of illness, radiological evidence of healing of the ulcer, and disappearance of associated reactions (nausea, vomiting, etc.) if present. Records show that benefits on the basis of the above criteria were not obtained in 18 patients,

TABLE I.—RESULTS OF TREATMENT WITH ROBUDEN OF 104 MEN AND 32 WOMEN WITH DUODENAL ULCER. MINIMUM OBSERVATION PERIOD FOR EACH PATIENT WAS 14 MONTHS

	Males	*Females*	*Total*
Satisfactory	66	23	89
Not satisfactory	38	9	47
Equivocal	23	6	29
Failure	15	3	18
Total treated	104	32	136
Per cent unsatisfactory	36.5	28	34.5

TABLE II.—BENEFITS (FEWER OR NO ULCER ATTACKS PER YEAR) ON ROBUDEN THERAPY. DATA BASED ON 104 MALE PATIENTS.

Duration of treatment (months)	*Number of patients*	*Beneficial effects*		*Failures and inadequate follow-up*	
		No.	*Per cent*	*No.*	*Per cent*
14 to 24.....	61	36	59	25	41
25 to 48.....	43	30	70	13	30
Total....	104	66	63.5	38	36.5

15 men and 3 women (13.2%). In addition, 29 patients, 23 men and 6 women (21.3%), did not show clear-cut evidence of improvement or else failed to return for continued treatment. We must not assume that a patient does not return for continued treatment because he has been relieved of his complaints. We should, however, take the dimmer view, namely, that the patient does not return to his doctor because treatment has *failed*, and he is now seeking cure elsewhere. For this reason we have included as failures (Table II) all cases where a follow-up could not be obtained.

be added that ulcer-site deformities seen on first examination in the chronic ulcer patient were usually still present after treatment had been carried on and the patient was relatively symptom-free for as long as two years.

In Table III the frequency of recurrence of ulcer attacks per year is summarized and in Table IV the weight changes are presented. These tables suggest that, while under treatment, most patients showed arrest or reversal of previous weight loss and that improvement extended also to the symptoms constituting an "ulcer attack".

It is generally agreed that in a chronic disease like peptic ulcer an observation period of at least one year is necessary before benefits from any particular therapy can be evaluated. In our series of cases we have arbitrarily divided it into two groups: one group was observed under Robuden treatment for periods of 14 to 24 months, and the other, for periods of 25 to 48 months. It was felt that an observation period of two to four years was long enough to satisfy most rigid standards of critical evaluation. In the 61 patients treated

TABLE III.—FREQUENCY OF RECURRENCE OF ULCER ATTACKS PER YEAR DURING FOUR-YEAR FOLLOW-UP PERIOD. DATA BASED ON 85 PATIENTS ON WHOM COMPLETE AND UNEQUIVOCAL INFORMATION WAS AVAILABLE

Follow-up period (years)	*Number of patients experiencing attacks per year of follow-up*							*Total number of patients*
	None	*0-1*	*1-2*	*2-3*	*3-4*	*4-5*	*Over 5*	
1	2	8	10	5	2	—	—	27
2	—	—	8	6	5	3	1	23
3	—	—	5	5	4	2	4	20
4	—	—	2	4	4	4	1	15
Total.....	2	8	25	20	15	9	6	85

The time course of patients' response to Robuden was variable. Since this was largely determined by the patients' subjective feeling, it could not be established accurately. We may conclude that relief from ulcer distress probably began within two weeks from beginning treatment. Optimum effects appear to have been obtained by five weeks and were maintained for long periods of time. On the basis of physical examination and roentgen-ray study it was apparent that the healing of the ulcer lesion was in progress by the third week and marked by the third month. Parenthetically, it may

TABLE IV.—WEIGHT CHANGES IN 103 CONSECUTIVE PATIENTS WITH COMPLETE DATA WHO WERE BENEFITED BY ROBUDEN THERAPY.

		No. of patients
1. Had not suffered weight loss before treatment.....		20
2. Had experienced weight loss before treatment*....		83
Weight loss continued after treatment, or no weight increase.....	19	
Weight improved or restored.....	64	
		103

*Only the weight loss associated with the ulcer disease is considered, and not weight loss induced for therapeutic reasons (e.g., obesity).

with Robuden for 14 to 24 months there were 25 cases that failed to respond satisfactorily; that is, 41% failures. In the 43 cases treated for two to four years, the failures were only 13 in number, that is, 30%. While it would appear that prolonged treatment with Robuden ultimately results in a higher percentage of ulcer patients improved, we would need more patients to place statistical reliance on this difference.

DISCUSSION

The study here reported covers the results of treatment of 136 peptic ulcer patients with an extract of fresh whole tissue derived from the small intestine and stomach (Robuden). The minimum observation period on which our conclusions are based was 14 months, but the observation periods ranged up to four years.

From the data, 65.5% of the patients improved. In considering this figure, strong emphasis must be placed on three issues fundamental to this study, namely that all patients treated with Robuden had medically proved peptic ulcer, nearly all had been found refractory to other forms of therapy before treatment with Robuden was instituted, and patients who failed to return for follow-

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up studies were considered as failing to respond to Robuden.

In a study such as ours, the importance of dealing objectively only with medically proved cases of ulcer is quite obvious and need not be dealt with further. Two other points, however, warrant further discussion.

The overall percentage of failures with Robuden treatment was 34.5%. This figure would be lower if the series had comprised only those seen in the average ulcer population. They were largely patients who had suffered from ulcer disease for periods up to 16 years, and had been refractory to the usual anti-ulcer regimens, including antacids, belladonna and ganglion-blockading agents. That Robuden was of actual benefit, and not a non-specific response to a change in medication or to psychotherapy, was demonstrated by the sustained improvement experienced by the patients. Not only subjectively but also objectively (laboratory and radiographic findings) the patients showed evidence of improvement. Finally, we wish to call attention to the fact that for reasons already given above we included the 29 patients on whom follow-up studies were unobtainable with the 18 who did not benefit from Robuden. Exclusion of these would have yielded a much lower figure for incidence of failure. We may say, therefore, that the actual percentage of failures may have been as low as 15%, but in any event did not exceed 34.5%. Even this latter figure for an observation period up to four years in duration has rarely been lowered by any of the usual forms of ulcer therapy.

SUMMARY

A series of 136 patients with medically proved peptic ulcer were observed under treatment with Robuden for periods ranging from 14 months to four years. Nearly all patients had previously been treated with other forms of therapy. The over-all incidence of failures was 36.5% among the males and 28% among the females. This includes 29 cases in which follow-up studies were unavailable; they were therefore considered failures. This figure leads to the conclusion that Robuden was of unquestionable benefit in the ulcer patient. The rationale for the treatment with Robuden is discussed.

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RÉSUMÉ

Cet article porte sur une série de 136 patients souffrant d'ulcère duodénal ou gastrique et soumis à un traitement d'extrait d'intestin grêle et d'estomac. (Robuden, *marque déposée*). La période d'observation dura de 14 mois à quatre ans. Il y eut amélioration dans 65.5% des cas. On doit ici insister sur trois points importants qui ressortent de cette étude.

Tous ces patients traités au Robuden étaient porteurs d'ulcère médicalement prouvé; presque tous s'étaient montrés réfractaires à d'autres médicaments avant d'avoir reçu ce remède; les patients qui n'ont pu être suivis ont été qualifiés d'échec. Il est inutile d'insister sur l'importance d'une sélection objective. Tous ces malades étaient porteurs d'un ulcère prouvé radiologiquement. On n'y reviendra pas. Par ailleurs les deux autres points méritent discussion.

Le pourcentage d'échec au traitement par le Robuden fut de 34.5%. Il aurait été beaucoup moindre si on n'avait choisi que des cas triés d'ulcéreux moyens. La plupart des patients au contraire, souffraient depuis plusieurs années (jusqu'à 16 ans) et s'étaient déjà montrés réfractaires aux médicaments habituels: alcalins, belladone, agents ganglioplégiques etc. L'amélioration des troubles, longtemps soutenue, démontre la bienfaisance réelle du traitement au Robuden plutôt qu'une réponse non spécifique à un changement de remède ou à la psychothérapie.

Enfin, on doit signaler que l'on a ajouté à cette série 29 cas, qui n'ont pu être suivis de façon adéquate, aux 18 cas qui n'ont pas été améliorés. L'exclusion des premiers aurait sensiblement diminué le nombre d'échecs. On peut donc affirmer que ce réel pourcentage d'insuccès aurait pu être aussi bas que 15% et n'est sûrement pas plus élevé que 34.5%. Au cours d'une période d'observation de quatre ans on ne peut guère obtenir de meilleurs résultats quelque soit la nature du traitement. L.P.

DOCTORS AND THE PREVENTION OF HIGHWAY ACCIDENTS

You, as doctors, have the following functions to perform in order to assist in the prevention of motor accidents.

1. To establish medical standards necessary for obtaining a driver's licence.
2. To determine the type and frequency of periodic re-examinations.
3. To engage in research concerning the relationship of specific organic and psychological states to motor vehicle accidents.

When it is realized that one car in 12 is involved in a serious crash each year, that speed is a factor in one-third of all our fatal accidents, that the drinking driver is involved in approximately one-quarter of all our fatal accidents, that the automobile death rate, as figured in man years of life lost, ranks next to our main killers—cardiovascular disease and cancer—it is indeed time to answer Cain's query and say: "Yes, I am my brother's keeper."

To fulfil this promise we must first overcome by education the apathy of the public, the apathy of our legislators, and the apathy of traffic judges. Secondly, adequate and stricter laws must be enacted—laws far more severe than any we now use. The speeding and the drunken driver can then be curbed by their prompt and impartial administration. Thirdly, safer cars must be provided to protect us in crashes which seem inevitable. Fourthly, better and safer roads must be built; 7% of accidents are due to road faults.—D. C. Howle: *M. J. Australia*, 2: 755, 1959.

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CASE REPORT

DISSECTING ANEURYSM OF THE AORTA*

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MANY RECENT REPORTS[1-6] have discussed the cause, location, natural history, age incidence and clinical features of dissecting aneurysm of the aorta. The antemortem diagnosis of this condition has been stressed: many of the case histories are of considerable duration.[7] In the one presented below there was radiological evidence that the aortic disease giving rise to the dissection was of more than 14 years' duration, and the patient had clinical symptoms of his disease for at least 12 years before his death.

The patient, a white man of Anglo-Saxon stock, was born in 1919. He had no known serious illnesses during childhood and adolescence except for an attack of diphtheria at the age of three years. He worked as a section hand on a railway before his enlistment in 1939 when he served in the Air Sea Rescue Service of the Royal Canadian Air Force until his discharge.

His service record lists bronchopneumonia, facial erysipelas, two attacks of influenza and several minor respiratory infections. Beginning in 1941, he complained of episodes of pain in the left inframammary region associated with flatulence. On discharge in 1945, he was thought to be suffering from a mild anxiety state.

From 1945 to 1949, he continued to have episodic, sharp, stabbing pain in the left inframammary region, usually precipitated by exertion and associated with flatulence.

On December 21, 1949, he developed suddenly, while at rest, steady epigastric pain which slowly increased in severity. This pain spread upwards into the lower chest and was associated with marked dyspnœa, palpitation, profuse perspiration and vomiting. During his one-week stay in hospital, the symptoms slowly subsided. Physical examination and roentgenographic examination of stomach and duodenum were reported unremarkable. The diagnosis on discharge was "probable duodenal ulcer".

On September 29, 1951, he suddenly developed, while at rest, pain of great intensity in the left inframammary region. It was sharp and stabbing, was made worse by breathing or moving, and radiated to the back, near the lower left scapular angle. Medication did not relieve the symptoms. While in hospital for one week, with a low-grade fever, the acute symptoms subsided and he complained of nausea and recurrent pain in the left side of the chest.

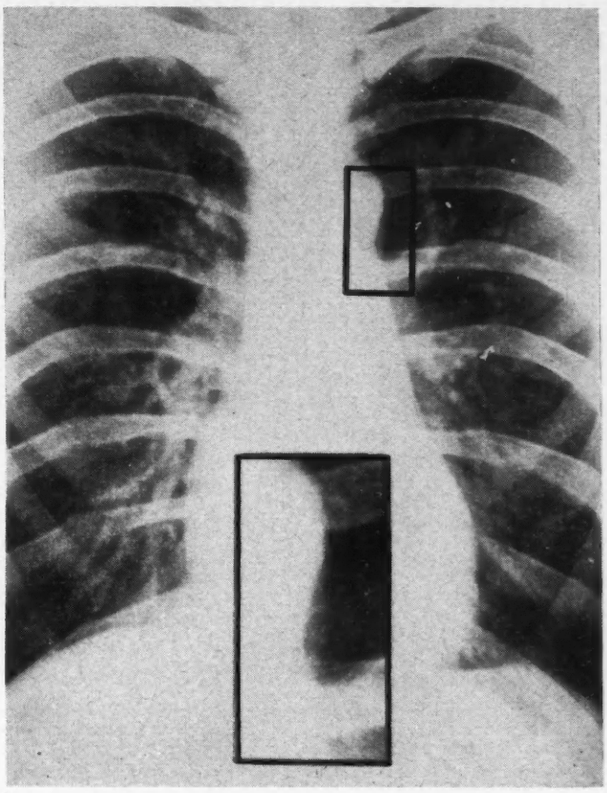

Fig. 1.—The descending aorta immediately below the knuckle protrudes slightly beyond the shadow of the ascending aorta. In view of his age (19 years at the time) and the subsequent events, aortic disease was probably present then. Induction film, October 1939.

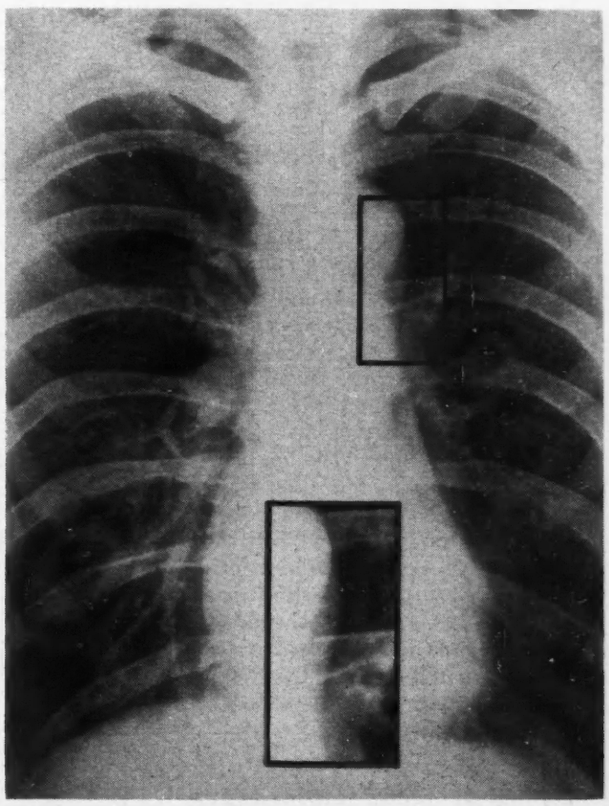

Fig. 2.—The descending aorta shows further unfolding beyond the shadow of the ascending aorta. No symptoms at this time. Abnormality noted only in retrospect on reviewing films. Discharge film, February 1945.

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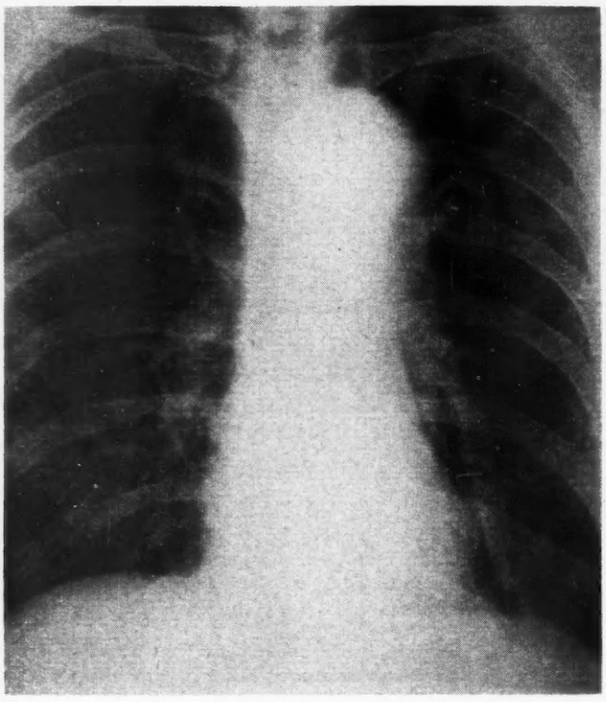

Fig. 3.—There is now marked widening of the entire thoracic aorta except for a small area adjacent to the valves. October 1951.

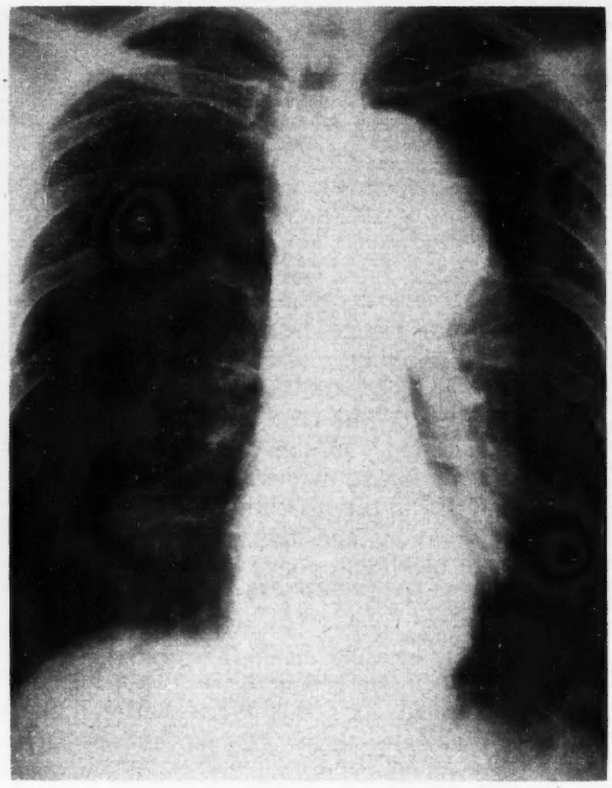

Fig. 4.—Considerable increase in aneurysmal widening of the aorta with slight displacement to right of the lower aspect of the trachea is present. June 1952.

On November 10, 1951, the patient was again admitted to hospital with frequent episodes of pain in the left side of the chest. He was a well-built man of 5′ 7″, weighing 141 lb. Physical examination was unremarkable except for a slight but persistent inequality of the blood pressure in the two arms (right arm—122/80 mm. Hg; left arm—135/90). The electrocardiogram was then, and on all subsequent occasions, normal. Roentgenograms of the chest showed an aneurysmally dilated aorta (Fig. 3), confirmed by fluoroscopic examination. The roentgenograms of the chest taken on enlistment and at discharge in the service were obtained (Figs. 1 and 2).

Laboratory studies revealed a hæmoglobin level of 15 g. and a white cell count of 11,500 with 60% neutrophils, 32% lymphocytes and 6% eosinophils. The sedimentation rate ranged from 60 to 80 mm. per hour. Serological tests for syphilis were negative in both blood and spinal fluid. The *Treponema pallidum* immobilization test was negative. A diagnosis of nonspecific aortitis was made and a full course of seven million units of penicillin was given, with no evident result. The low-grade fever persisted, along with a dull aching pain throughout the left side of the chest. The patient was discharged from hospital on December 17, 1951.

During the next year and a half, repeated fluoroscopic examinations revealed slowly progressive aortic dilatation. The sedimentation rate remained high, and a slight fever persisted. The white cell count returned to normal; it was not observed to rise thereafter. The same pain in the left side of the chest continued, and the patient was now an invalid.

On September 10, 1952, he was readmitted to hospital for further investigation and remained until

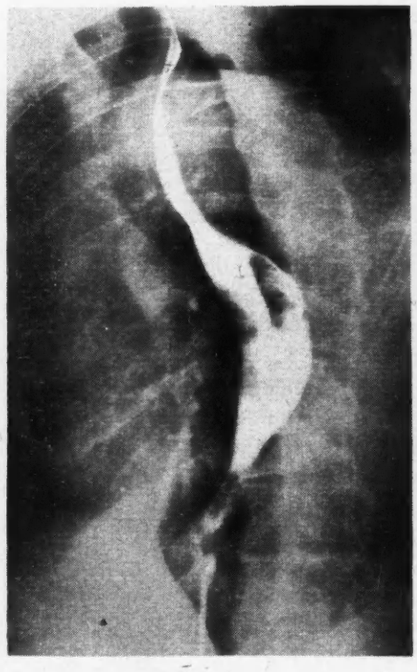

Fig. 5.

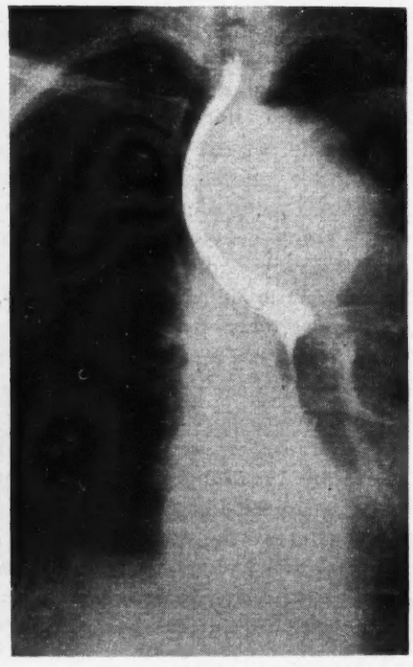

Fig. 6.

Figs. 5 and 6.—Gross widening of the entire thoracic aorta is present, leaving only the most proximal aspect near the valves relatively free. Considerable displacement to the right of lower trachea and œsophagus is noted. January 1953.

Fig. 7.—Dissection of the aorta showing the formation of a barrel within a barrel in the descending arch.

October 15, 1952. All his previous symptoms were present and were markedly aggravated by fatigue or minimal exertion. Pain in the lower abdomen on the left side was of major proportions. There was no fever, no elevation of the sedimentation rate, no inequality of blood pressure in the arms and no palpable abdominal mass. He had a conspicuous aortic pulsation in the epigastrium and right upper quadrant. The roentgenograms of the chest (Figs. 4-6) showed a striking increase in the transverse diameter of the aortic arch and marked further unfolding, so that the entire outline of the thoracic aorta appeared to the left side of the cardiac shadow.

In March 1953, partial paralysis of the left recurrent laryngeal nerve with accompanying bouts of laryngospasm and cough developed, requiring treatment in hospital lasting about 10 days. The trachea at this time was deviated to the right, and a pulsating tumour was readily palpable above the suprasternal notch.

On April 29, 1953, he was admitted to hospital for treatment of intractable hiccup which responded well to adequate sedation. He was discharged from hospital May 27, 1953.

From this time until June 22, 1953, there followed a marked remission of all his symptoms so that he was able to discontinue about 50% of his routine medication. On June 22, 1953, he complained of a sudden tearing pain in the upper region of the right side of the chest, which radiated to the right side of the neck. On admission to hospital the same day, he was in severe shock and died shortly after in coma.

Post-mortem Findings

At autopsy the pertinent gross findings were limited to the thorax. The aorta was greatly dilated and thin-

Fig. 8.—Old and recent thrombus material is present in the dissected areas of the aorta.

walled. The wall of the aorta was split, forming a barrel within a barrel (Fig. 7). This defect extended from 1 cm. above the aortic valves to 11 cm. above the bifurcation. The space between the split walls was empty for the first 11 cm.; thereafter the space contained old and recent thrombus material (Fig. 8). At the aortic arch there was a large circular defect of the anterior surface of the intima (Fig. 9), measuring 2.5 cm. in diameter. A tear in the adventitia posteriorly measuring 4 cm. was seen at 3 cm. from the intimal defect. The right pleural cavity contained 2500 c.c. of fresh blood.

Microscopic examination of the aorta gave the classical evidence of cystic medial necrosis with dissection. The intima was unremarkable except for the occasional presence of small areas of mild hyaline thickening which was indistinctly demarcated from the media. Striking degenerative changes of the media at the junction of the inner two-thirds and outer one-third were apparent in all sections of the wall of the aneurysm. In non-cystic areas of the aneurysmal wall varying degrees of disorganization of the medial elements were present. Degeneration and loss of muscle

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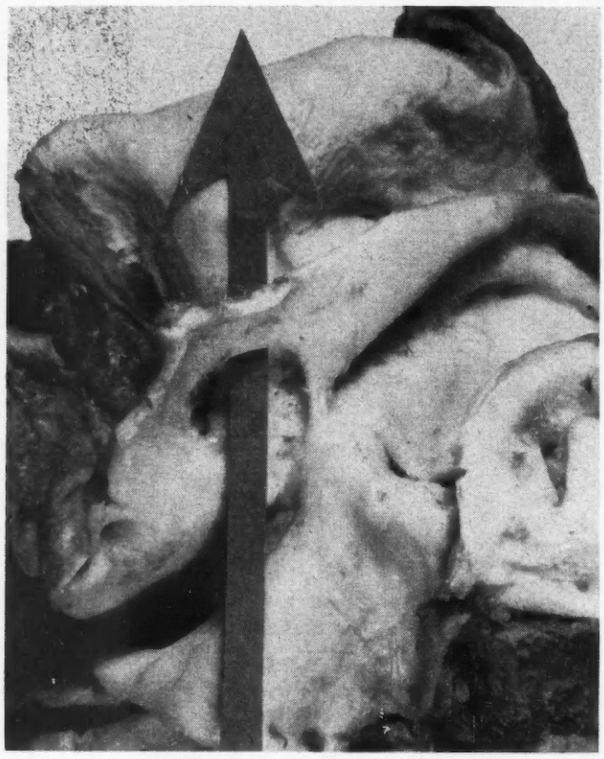

Fig. 9.—The arrow demonstrates the circular defect of the intima of the aortic arch entering into the dissected area.

cells and elastic tissue, with replacement by homogeneous, anuclear pink-staining material, were seen. In cystic areas of the aneurysmal wall the loss of muscle cells and elastic tissue with replacement by anuclear pink-staining homogeneous material was more marked, and the presence of cystic spaces was noted (Figs. 10 and 11). Scattered throughout the media were a few groups of mononuclear cells resembling lymphocytes. In areas of the aneurysm with dissection, all of the previously noted changes were present and hæmorrhage into the cleavage line was a feature (Fig. 12). Recent and old thrombus material undergoing organization in the line of cleavage was present. The adventitia was thickened by fibrous tissue and was hæmorrhagic. The fibrous tissue merged into fibrotic media. A few adventitial arterioles were surrounded by small collections of lymphocytes.

DISCUSSION

The interesting feature of the present case concerns the length and course of the aortic disease. From the radiological evidence, definite, if slight, aortic disease was present in this young, normotensive male, as early as October 1939. The chest roentgenogram at that time was considered to be normal, but in retrospect, slight aortic unfolding was quite evident, and this had increased very considerably by the time the discharge film was taken in 1945. From the history, it is reasonable to assume that the aortic disease was active enough to produce some chest pain as early as 1941. The 12-year duration of symptoms in a case of this kind is most exceptional.

Fig. 10

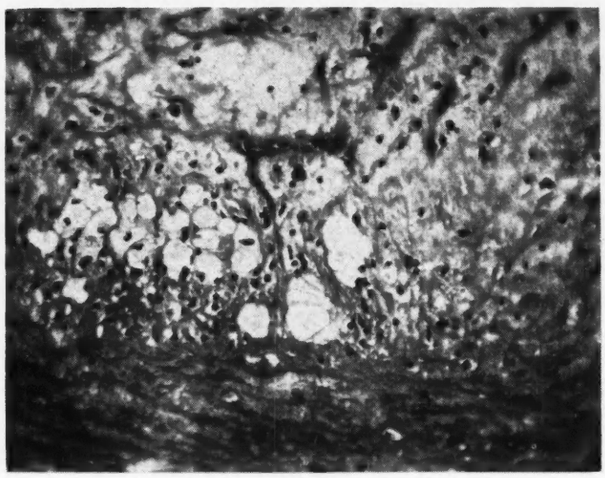

Fig. 11

Figs. 10 and 11.—Low and high power photomicrographs of the cystic areas of degeneration in the aorta. H.P.S. × 27, × 184.

Except for its duration, the clinical course was not remarkable. The first clear episode of dissection occurred in December 1949, when the symptoms were predominantly gastro-intestinal. Later, pain in the chest, left supraclavicular fossa and

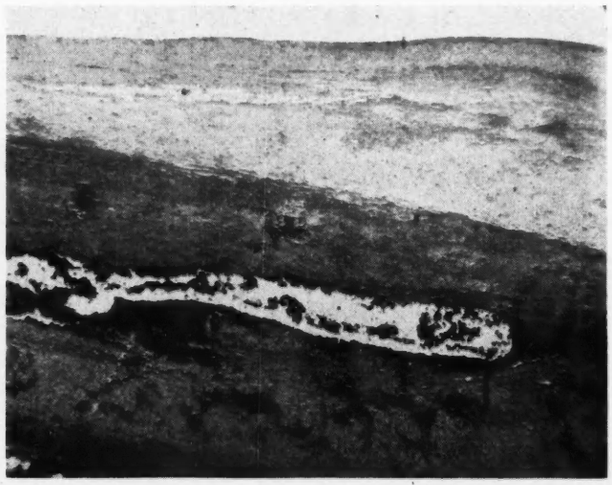

Fig. 12.—Low power photomicrograph showing hæmorrhage into the cleavage line of dissection of aorta. H.P.S. × 27.

back, cough, laryngospasm and hiccup dominated the picture. However, abdominal pain and flatulence remained as prominent features throughout. Physical signs were conspicuous by their absence until a very late stage in the course.

The radiological findings in this case were of particular importance, both in establishing the early stages of the disease and in following its progression. In discussing the radiological diagnosis of dissecting aneurysm, Wood, Pendergrass and Ostrum[8] rightly stress the usual deformity of the supracardiac shadow as either a simple widening or an arcuate excrescence due to local sacculation, which may or may not pulsate. Often, some of the mediastinal widening may be due to involvement of the innominate artery in the dissection, or in extravasation of blood into the mediastinum. Partial obstruction, displacement of the œsophagus, and displacement of the trachea are quite common. There may be a complicating pleural effusion, most often seen on the left side. This may be the result of venous and lymphatic obstruction, pleural irritation by subserous hæmorrhagic infiltration or frank intrapleural hæmorrhage. As they point out, patients are often too sick to be moved to the radiological department, when the findings would be most informative. In our case, radiological studies were very complete, except in the terminal illness.

The present case adds little to our knowledge of the etiology of the medial degenerative process responsible for the aneurysmal dilatation and the eventual dissection of the aortic wall. We can be confident, on clinical, serological and pathological grounds, that it was not of syphilitic etiology. Further, arteriosclerosis and hypertension played no part in the etiology. The absence of elastic tissue in the areas of the aortic lesions agrees with Gore's[2] description of dissecting aneurysm of the aorta in persons under 40 years of age.

A remarkable number of cases of aortic dissection are seen in patients with Marfan's syndrome. McKusick[9] has recently pointed out that in family groups exhibiting this syndrome, some individuals may have aortic dissection alone, their body configuration being normal. Other relationships, which obviously do not apply to the present case, are the association of this syndrome with pregnancy[10] and with hypertension. Beaven and Murphy[11] mention nine cases of dissecting aneurysm amongst 44 patients treated for hypertension with either methonium or pentolinium. This would suggest a possible toxic effect of these drugs on the aortic media, or possibly marked changes in blood pressure. As early as 1939, Duff, Hamilton and Magner[12] showed that tyramine can produce medionecrosis. More recently, spontaneous aortic dissection and rupture has been encountered in rats fed on sweet-pea meal (*lathyrus odoratus*), the toxic agent being identified as beta-aminoproprionitrile.[13] None of the studies quoted appear relevant to the case we are discussing. However, our patient did suffer from severe diphtheria in early childhood. It is interesting to speculate on the possible role of this illness in the production of his aortic lesions, in view of Duff's report of the experimental production of medionecrosis in rabbits with injection of diphtheria toxin.[14]

Many cases have been described in which there was long survival and even healing. Two anatomical factors are believed to encourage survival: the situation of the dissection and the length of the aneurysm. The majority of the surviving cases have a normal ascending aorta with dissection beginning at or beyond the arch, giving rise to a long sheath-like aneurysm. Our case is exceptional, as the dissection involved the ascending aorta.

SUMMARY

A case of cystic medionecrosis of the aorta with dissecting aneurysm is reported. The interesting features of the case are the lengthy history, despite involvement of the ascending aorta, the extensive radiological documentation and the speculative possibility that diphtheria toxin may have been the etiological agent causing medionecrosis. Death resulted from rupture of the aneurysm into the right pleural cavity.

We wish to thank Dr. W. F. Connell for allowing us to present his case and for his help with the preparation of the clinical history.

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SHORT COMMUNICATION

RESCUING PHOTOGRAPHS FOR MEDICAL PUBLICATION

DONALD J. CURRIE, M.D.* and
ARTHUR SMIALOWSKI,* *Toronto*

OCCASIONALLY, unsuitable photographs are used for medical illustration. The photograph may have been taken by a nonmedical photographer using techniques unsuitable for good medical records.

*St. Michael's Hospital, Toronto.

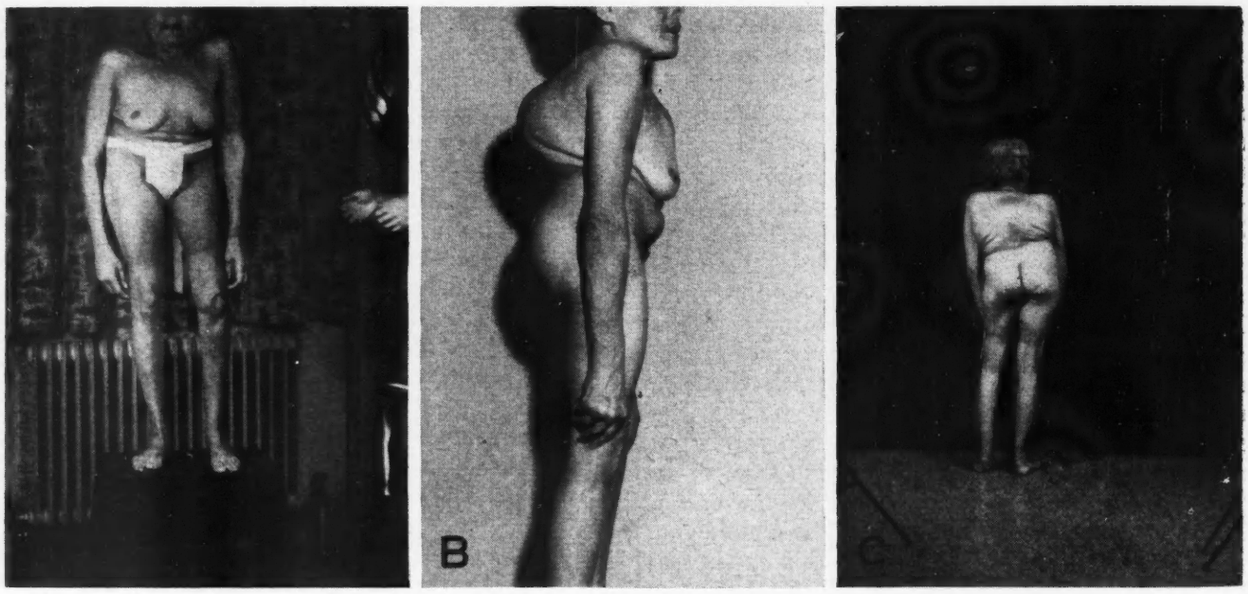

Fig. 1.—A, B and C were the only available photographs of a patient with severe kyphosis and scoliosis. A was taken against a distracting background. B was exposed by a single photoflash bulb which produced a strong shadow blending with the shadows on the outline of the back of the patient. C did not have a uniform background. In each photograph, the background and the size of the subject were different.

The photographs may have been taken with another use in mind. It may be desired to incorporate the unsuitable photograph in an existing series of similar photographs. The photograph may be unsuitable because of the area, or the size of the image of the subject and/or the background. Although the emergency rescue technique to be described will improve the appearance and value of the photograph, the pose, distribution of light and sharpness of the image cannot be changed. There is no substitute for a high-quality original.

The main concern is changing the available material into a form suitable for publication. There is little difficulty in making prints for medical records, and transparencies for teaching purposes. The purpose of this article is to point out to medical writers a method of salvaging photographs for medical illustration. The alterations will be carried out by a photographer under the physician's direction unless the physician has experience in copying and darkroom techniques.

Examples of unsuitable photographs of a patient with kyphosis and scoliosis are shown in Fig. 1. It is apparent in each photograph that the background exerts a distracting influence. In combining the three views, the size of the image of the patient is noticeably different in each photograph.

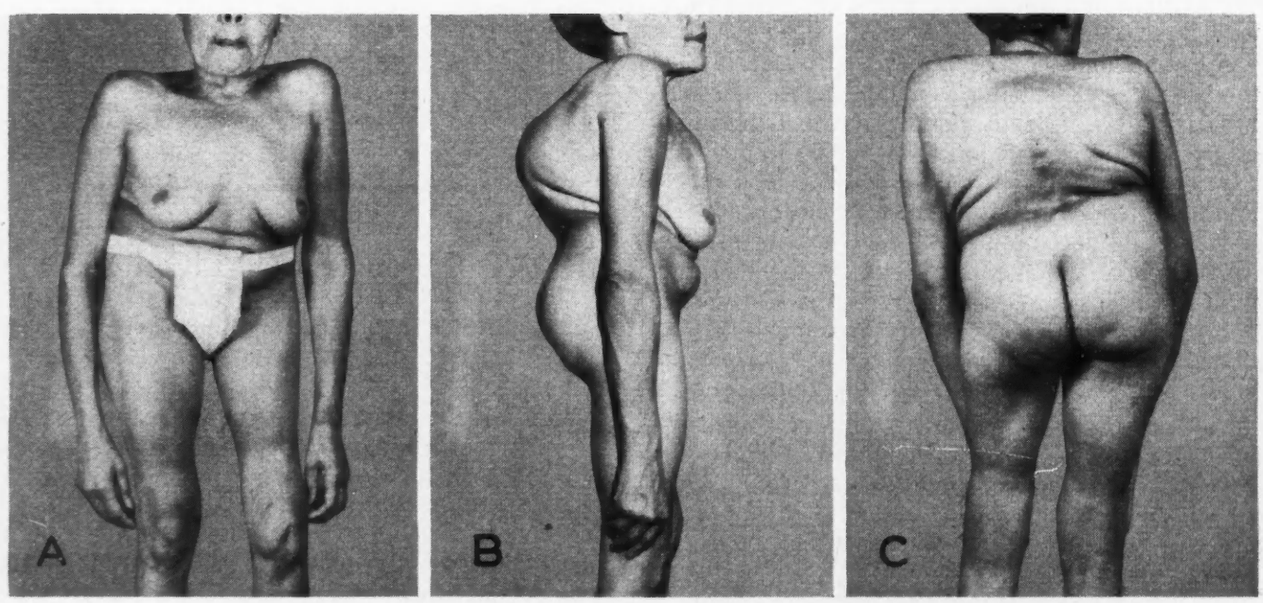

Fig. 2.—A, B and C show the same subject as in Fig. 1, A, B and C. After the photographs were copied to bring the subjects to uniform size, cut out and photographed against uniform backgrounds, the value of the illustrations was greatly increased.

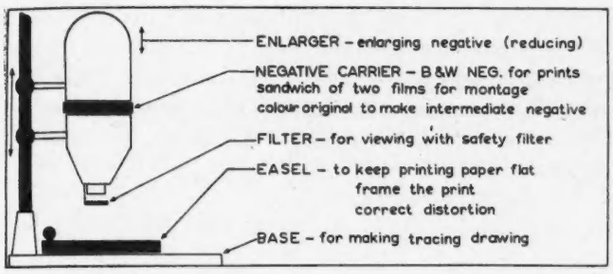

Fig. 3.—The role of enlarging in the described method of making alterations.

The Size of the Image

The first step is to make a suitable photographic copy. If the original negative is available, a monochrome print on single-weight glossy paper should be made. If the original negative is not available, a copy print should be made from the original to safeguard the original from accidental damage. The images of the patient in the three views are brought to the same size during enlarging or copying (Fig. 3).

The Background

The second step is to cut out carefully with fine scissors the image of the subject in order to remove the background. The cut-outs are then re-photographed with suitable plain backgrounds. The cut-outs are held flat between two sheets of glass, and this sandwich may be held at a distance from the background to eliminate shadows.

The Result

The final prints will show plain backgrounds of the same tone and subjects of similar size. Using this method of correction, the photographs in Fig. 2 were made from the originals in Fig. 1.

Special Effects

When special effects are desired, they are easily incorporated using this method. A grid screen may be superimposed during enlarging. If one side of the cut-out is painted black, a silhouette photograph can easily be made by transillumination. Depending upon the effect desired and the subject, light or dark backgrounds are selected.

For the purpose of medical publication, the work involved in improving a photograph is fully justified. Only then will the illustrations match the standard of the text.

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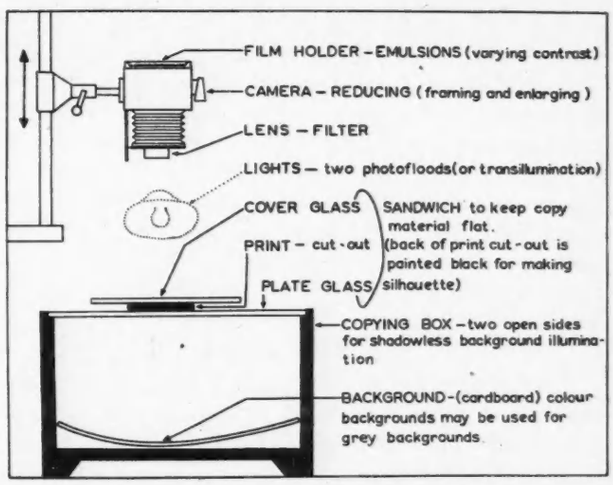

Fig. 5.—A photographic arrangement which is suitable for copying the cut-outs. Cut-outs of photographic prints of patients, specimens, instruments or glassware may be altered by changing their size and background; by grouping them in a series; or by combining them with radiographs, photomicrographs or drawings.

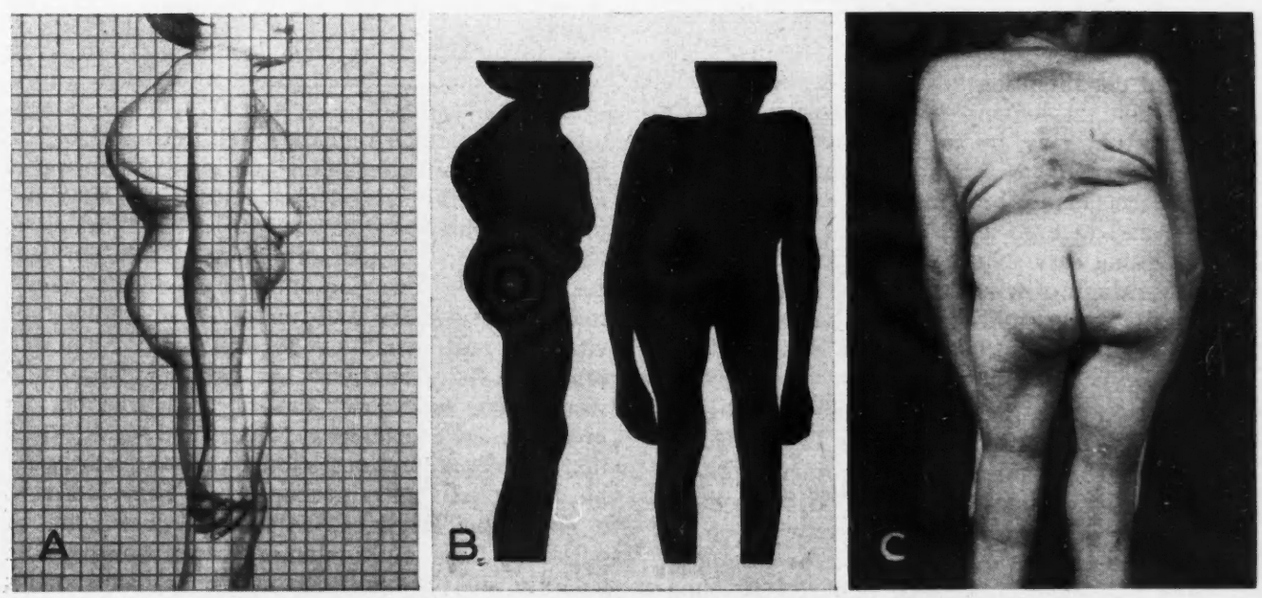

Fig. 4.—In A a superimposed grid screen was added during enlarging. B shows the silhouettes produced by transilluminating the cut-outs. C has a dark background which may be used wherever the outline of the subject is well illuminated.

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THE COST OF DRUG TREATMENT

In some variation or another, the statement "modern drug treatment is expensive" appears frequently in the press and on the lips of doctors, patients and politicians. As is usual in such situations, it is only human to seek for a scapegoat. The patient distributes the blame between his doctor and the pharmaceutical industry, possibly with a side-glance at his local pharmacist, while the doctor places the blame on industry entirely. The industry, having no one else to blame, has to try to defend itself against these charges.

Everyone interested in this subject is strongly advised to read a special article by Miller and Smith on "The Cost of Drug Treatment" which appeared in the January 2 issue of the *Lancet*. It is quite one of the most sensible and objective assessments of the situation which we have seen, and it suggests that trying to find a scapegoat in this situation is as unprofitable as it usually is, and that the increasing cost of treatment is an inevitable price we are paying for the present scientific revolution in medicine.

It is not our intention to indulge in the unprofitable pastime of looking for scapegoats, however satisfying that may be to the emotions. It may be well, however, to remind our readers of some of the facts (ably brought out in this *Lancet* article), and to urge a little further consideration before finding easy solutions to extremely complex problems. Much of what Miller and Smith have to say is particularly applicable to the National Health Service in Britain, but a great deal of it goes well beyond the national boundaries.

They point out that the reason that there is so much fuss about the drug bill in Britain is that it now has to be paid for by government. For the first time, this change in the method of payment for medicine has permitted an assessment of the national consumption of drugs in terms of money, although politicians previously viewed with equanimity a comparable dissipation of the national resources in the hands of private enterprise. As might be expected, government takes no responsibility whatsoever for the rise in the cost of drugs in Britain and attributes it either to the rapacity of patients or the negligence of doctors or both. The fact that Britain has been going through a period of inflation, for which the politicians have a direct responsibility, and that their administration has failed to evolve a less expensive system of getting drugs to patients, is passed over lightly.

Miller and Smith discuss the cost of treating various diseases. For instance, they find that the treatment of heart disease is generally inexpensive, the management of hypertension is usually a little dearer, and the cost of treatment of angina can vary greatly in terms of the particular drug fancied by the doctor. Myasthenia gravis is a fairly expensive illness, but even here it is pointed out that one of the recent proprietary drugs has actually cut the cost to such an extent as to represent an economy over prescribing of non-proprietary preparations. Wilson's disease is extremely dear if it is treated with penicillamine, but there is no way of cutting the cost because this drug is extremely difficult to prepare and has only a very limited sale. In the field of infections, sulfonamides are still very cheap but it is interesting to note that some oral penicillin preparations are dearer than the newer antibiotics. The cost of treating diabetes mellitus is almost independent of the type of insulin employed, and modern preparations for insomnia are not expensive at all. Miller and Smith point out that "it is a remarkable tribute to the efficiency of the pharmaceutical industry that a week's supply of phenobarbitone or digitalis in reliably standardized dosage can be furnished by the industry for a basic cost of one penny and of thyroid extract for twopence [approximately 2 cents]." However, distributive costs, as in many other areas of commerce, are very high.

Miller and Smith classify the expensive drugs as: (1) those which are genuinely expensive to manufacture, such as penicillamine, (2) those in which the costs of development must be recouped by an initially high price, and (3) special preparations of common remedies. With the cost of the first class, there can be no quarrel. If medicine is to advance, the second class must continue to be produced and to be expensive. In the third class, we enter into an area of debate. As Miller and Smith remark, "the marketing of expensive hæmatinic *olla podridas* and unholy combinations of vitamins and sedatives by otherwise reputable firms greatly strengthens the hand of those who would like to restrict the doctor's freedom to prescribe." Nevertheless, Miller and Smith feel that these preparations should not necessarily all be consigned to the garbage can. They feel that it would be "negligent as well as doctrinaire to withhold some multi-vitamin preparations in the complex and ill-understood metabolic disturbances manifested by a malnourished alcoholic or a patient with an obscure malabsorption syndrome."

Another interesting point they make is that although much is said about over-prescribing by doctors, little is said about under-prescribing. Some doctors may fail to give their patients the benefit of expensive remedies scientifically validated as outstandingly effective, and the politician who grumbles about costs might feel offended if his doctor failed to give him personally the benefit of the whole range of drugs available. Finally, the authors point out that the drug bill everywhere is bound to rise, unless the pace of research slackens —in which case neither the medical profession nor the industry will deserve well of the public. They note that in the United Kingdom, the pharmaceutical industry alone spends a sum of money on research each year which is greater than the total annual budget of the Medical Research Council and that even in basic pharmacological research its output is now far greater than can be obtained with the small pharmacological departments in universities. The only alternative to this is the provision by government of huge sums of money for pharmacological research, either carried out in institutes or in universities. In that case, of course, since nothing in this life is free, the public will still bear the cost, even if it is hidden in taxation.

Editorial Comments

STAPHYLOCOCCAL PNEUMONIA IN INFANCY

"We cannot continue to tolerate hospital arrangements which turn wards into staphylococcal sewers."[1] This striking statement is directed at the maternity hospitals, the main reservoirs of virulent epidemic strains of staphylococcus in the community. It is in this institution that asymptomatic infection of the newborn is acquired. The organism is carried in the upper respiratory passages of the infant for a varying period of time, until some factor, perhaps an infection of the upper respiratory passages, lowers the resistance, allowing spread of the virulent organism to the lungs, pleura and, possibly, other sites of the body (bone, meninges).

The reported mortality rates since 1955 of infants with staphylococcal pneumonia are over 20% in nearly all series. In a Toronto hospital during the period 1950-59, the mortality rate for infants under one year of age with (primary) staphylococcal pneumonia averaged 18%.[2] Staphylococcal pneumonia of infants is not one of those diseases whose increased incidence can be casually ascribed to "an increased awareness" or "improved methods of diagnosis". This increase has in fact followed the widespread general use of antibiotics—in the period 1922 to early 1944, only 29 cases were seen in a large New York children's hospital[3]—and the subsequent assumption of the "staphylococcal sewer" by the maternity hospital.

In the newborn, coagulase-positive staphylococci can be cultivated from the nose, umbilicus and skin in a large percentage of cases in which no clinical lesion is present.[4] Investigating the epidemiology of staphylococcal infection in a maternity hospital, Gillespie[5] found that most infants became staphylococcal carriers (in the nose, umbilicus or groin) before they were two days old; 88% were nasal carriers at the time of discharge from hospital (aged 10 days), although most had remained asymptomatic. Timbury and her co-workers[6] found that seven out of 10 babies investigated four months after their discharge still harboured the staphylococcus acquired in hospital.

In an excellent discussion of this problem, Morris[8] states that the diagnosis of staphylococcal pneumonia should be the provisional diagnosis for any infant born in a maternity hospital who, subsequent to an apparent infection of the upper respiratory passages, develops laboured respirations, generalized wheeze, persistent pyrexia and, in particular, signs of pleural effusion. Gaseous distension of the whole bowel is frequently an associated finding. Confirmation of the clinical diagnosis will depend on the usually prolonged clinical course, and on radiographic and bacteriological findings. X-ray findings that support the diagnosis are localized pneumonia, early pleural space lesions, multiple abscesses (especially in the lower lobes) and cysts (pneumatoceles).

Bacteriological proof may be difficult. Throat swabs taken routinely on admission have been found to be of little value in identifying the staphylococcus as the causal organism. Thoracic puncture at the site of the pneumonic area has been found to be a highly successful method for obtaining bacteriological confirmation.

Treatment consists of the administration of the appropriate antibiotic, together with surgical procedures when indicated. Because of the difficulty of isolating the causal organism and hence determining its sensitivity, the definition of the appropriate antibiotic in the individual case may prove difficult, a point well demonstrated by Rebhan and Edwards.[2] Penicillin would appear to be seldom the antibiotic of choice, as the staphylococcus is generally found to be resistant to that antibiotic. Chloramphenicol and erythromycin are two drugs which are of distinct value, but their side effects should be kept in mind.

Various combinations of antibiotics have been suggested for use against the staphylococcus, but the value of these is uncertain and is probably no greater than that of the more powerful of the individual drugs used alone.

At all times the physician must be on the lookout for the development of collections of pus. These normally precede or coincide with a worsening of the patient's condition despite appropriate antibiotic therapy. In particular, the collection of pus in the pleural space (empyema) must be sought. When the diagnosis of empyema is established, prompt pleural catheterization and underwater drainage are usually followed by relief of distress and the commencement of cure.

An impressive reduction of staphylococcal infection in the newly-born has been achieved by Hill and his associates[7] who introduced the routine use of hexachlorophene emulsion. In their hospital the incidence of staphylococcal infection in the newly-born in 1956 was 1.9%; in 1957, 3.7%; by October 1958, 17%. The effect of the introduction

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of hexachlorophene emulsion was immediate and sustained. It reduced the infection rate in their group of fully treated babies to less than 2%, and held it to 1.3% among the 3744 babies born in the hospital in the next six months. They outline in detail a simple routine of swabbing the entire surface of the baby with the emulsion. At the same time, nurses who were nasal carriers of *Staphylococcus pyogenes* were treated by local application of an antibiotic cream (a combination of bacitracin and neomycin, applied inside the nostril twice daily for one week).

Before the introduction of the use of hexachlorophene emulsion, 90% of premature babies and 70% of term babies born in hospital became nasal carriers within 10 days of birth, whereas afterwards only 30% of 106 premature babies and 38% of 111 term babies were nasal carriers of *Staph. pyogenes*.

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OF WOMEN'S AUXILIARIES*

Of the many changes in hospital life few are as recent or as striking as those produced by the work of the women's auxiliary groups.

The word "auxiliary" still has no definition other than that given us by the great lexicographer as one who "aids, helps and assists". Dr. Johnson applies it only to auxiliary troops; he probably would not have allowed that women might profitably assume duties other than those of the home. But even his conservatism in the matter might have been shaken could he have been confronted with the annual reports of the various modern "auxiliaries".

Perhaps it is at Christmas especially that the significance of these groups becomes most strikingly apparent, when at their "careful and charitable hands", as Sir Thomas Browne phrases it, so much is done and such thought is taken to brighten surroundings and cheer the sick. In a large hospital the work on Christmas decorations alone may begin as far back as in the summer, and in the Christmas season itself the activity is incessant. On the material side, the financial aid of these auxiliaries, both direct and indirect, can be most valuable. Their contributions to the life and general well-being of a hospital are incalculable.

It takes much hard work, fine leadership and ideals of selflessness to create these organizations. A hospital is a microcosm, and round its central function of caring for the sick there develop multitudes of problems and activities. To deal with these effectively, unobtrusively and pleasingly, as do these auxiliaries, is to practise in all its beauty the meaning of that still lovely word charity.

*A comment prompted by the report of the Women's Auxiliary of the Montreal General Hospital, January 1960.

CROHN'S DISEASE AND ULCERATIVE COLITIS

Of all the granulomatous disorders of the gastrointestinal tract, those of unknown etiology are terminal ileitis (Crohn's disease), ulcerative colitis and enterocolitis. Brooke (*Lancet*, 2: 745, 1959) discusses these three conditions and points to the diagnostic features which help to distinguish Crohn's disease from ulcerative colitis. By and large, any non-specific lesion in the large intestine is colitis. It has to be stressed, however, that ileitis is not a proper term for Crohn's disease because not all cases of this disease begin in the ileum; in fact, there are many that begin in the colon and a few that are limited to the colon alone. The latter was present in seven cases of a group of 121 cases studied by Brooke; 59 of this group had initial colonic involvement and only in 62 was the initial lesion confined to the small intestine.

He believes that ulcerative colitis can be distinguished from Crohn's disease involving the colon alone by the greater thickness of the intestine in the latter and by the appearance of the ulcers, which are serpiginous and have hypertrophied edges. In ulcerative colitis the mucosa is generally involved, whilst in Crohn's colitis it appears relatively normal between the ulcers. The lymph nodes in ulcerative colitis are abnormal only along the marginal vessel and vasa recta, but in Crohn's disease there is marked lymphadenoid hypertrophy, especially proximally in the mesentery.

The condition described as enterocolitis has been recorded 34 times in Birmingham. All these cases had steatorrhœa and in many of them the liver was cirrhotic, as distinct from Crohn's disease in which it frequently shows fatty infiltration. This rare condition is found in the right side of the colon and may be similar to that described as non-stenotic enteritis by Templeton. Brooke admits that his mind is open on the subject and that it is quite possible that all the three entities may eventually prove to be variants of one disorder. He then discusses hepatic cirrhosis and other liver damage found in these conditions, and points to the finding of bacteræmia in a certain number of samples from portal blood. In some cases the same organism found in the portal blood was also grown from the liver biopsy specimen. In spite of these findings, no case of pyæmia or liver abscess was found in ulcerative colitis. Brooke believes that whilst the bacteræmia itself may not be very significant, it points to the possibility that not only organisms but also other agents (chemical factors, etc.) may pass into the liver from the diseased bowel. These may be responsible for the perilobular or fatty necrosis and later necrotic cirrhosis. The answer to the question why cirrhosis develops in ulcerative colitis and only fatty degeneration in Crohn's disease may shed light upon the etiology of cirrhosis in general.

It should be remembered that in neither disease is intestinal obstruction due to stricture alone because the large bowel contents are fluid. It is the outcome of loss of intestinal motility, and, in Crohn's disease, of weakening of the power of contraction due to chronic potassium loss. Therefore it never requires emergency operation in Crohn's disease where restoration of serum electrolyte

levels permits operation as an elective procedure. In severe ulcerative colitis, on the other hand, obstruction is an urgent indication for emergency operation. In such cases Brooke urges primary colectomy.

Although excision of the diseased bowel is not regarded as a procedure of choice in Crohn's disease, it is found that eventually 80% of patients with this condition come to operation. Surgery does not prevent recurrence but does prevent morbidity and mortality due to complications. The method of choice, according to Brooke, is resection except in cases of duodenal involvement where anastomosis is the only thing possible. In cases of Crohn's colitis, Brooke has at times been forced to excise the whole large intestine and subsequently found that in some patients recurrence took place above the ileostomy stoma. He is of the opinion that these cases should always be treated first with steroids.

Ulcerative colitis can be cured by colectomy because, even though the involved ileum is not removed, it usually heals satisfactorily after operation. Modern methods of ileostomy and the advent of the adherent bag have made total colectomy and ileostomy much less of a disability. The positive reasons for excision of the large bowel, including the rectum, are recurrence in the remaining bowel and danger of cancer. It is well known that this hazard increases with the duration of the disease, and recently analysis of the incidence of carcinoma in ulcerative colitis showed that it is about thirty times as high in these patients as in a similar population with previously normal bowels. The chemical disturbances immediately following ileostomy can now be treated accurately, and it is possible to make good sodium and potassium loss quantitatively even without laboratory aids. A rough guide for replacement in milliequivalents is, for sodium one-tenth of the volume of ileostomy excreta, and for potassium one-hundredth of this volume. If ileitis is present, the potassium loss is greater and replacement amounts to one in 30 or one in 20. The operative mortality is falling from 5% and the patient mortality rate from 10%. Follow-up studies indicate that 92% of those operated on for ulcerative colitis returned to normal activities and remained well for a period up to twenty years.

W. GROBIN

MEASLES AND GIANT-CELL PNEUMONIA

Giant-cell pneumonia, often referred to as Hecht's giant-cell pneumonia, is an interstitial pneumonitis so far observed only in children. It is characterized by the presence of multinuclear giant cells with intranuclear and intracytoplasmic inclusion bodies. Additional pathological features are a preponderance of mononuclear cells in the infiltrate, squamous metaplasia of the bronchial and bronchiolar epithelium, proliferation of alveolar lining cells, and the occurrence in occasional cases of giant cells in organs other than the lungs.

In two impressive papers Enders and co-workers (*New England J. Med.*, 261: 875 and 882, 1959) describe the studies that led them to the isolation and identification of the measles virus in three cases of giant-cell pneumonia first diagnosed as such at autopsy. From the first paper certain of the clinical and pathological findings in the three cases presented should be mentioned.

A three-year-old girl being treated for mucoviscidosis was admitted to hospital because of severe respiratory infection. X-ray findings in the chest were consistent with advanced mucoviscidosis with extensive peribronchial inflammatory reaction. At autopsy the diagnosis of mucoviscidosis was confirmed, and giant-cell pneumonia was recognized.

A four-year-old girl suffering from leukæmia was admitted with a diagnosis of bronchopneumonia complicating leukæmia. Autopsy revealed acute myeloid leukæmia and giant-cell pneumonia.

A two-year-old girl with Letterer-Siwe disease was admitted with fever, diarrhœa and vomiting, and with rapid breathing considered to be due to dehydration and acidosis. Autopsy confirmed the diagnosis of Letterer-Siwe disease and revealed extensive giant-cell pneumonia.

Although the children were known to have been either exposed to measles or living in an area where the disease was epidemic, none of them presented signs or symptoms characteristic of the disease. Viruses were isolated post mortem from pulmonary secretions or tissue in all three cases and found to be indistinguishable from the virus of measles.

In the second paper, Mitus, Enders and associates present the results of study of four leukæmic children with overt measles complicated by severe pneumonitis. In two of the young patients, the principal autopsy findings were acute leukæmia and severe bilateral giant-cell pneumonia; in the other two, survival did not permit a definitive diagnosis but the x-ray findings were considered to be those of giant-cell pneumonia.

Two unexpected discoveries were that the measles virus persisted for an unusually long period in the upper respiratory tract of these patients (for over one month in one of them), and that the patients failed to respond in the normal manner by development of specific antibodies.

These two remarkable features combined with the one from the first paper—failure of the patients with giant-cell pneumonia to present the usual manifestations of infection with measles virus—are difficult to explain. It is possible that pre-existing chronic debilitating disease may have depressed the usual mechanisms of resistance.

These studies have shown clearly that, in patients with certain severe illnesses, measles infection may go completely unnoticed, that the immune (antibody) response may be altered or markedly suppressed and the virus may persist and be a cause of severe progressive illness and the source of contagion for considerable periods after the initial infection.

The two surviving patients of the second study received large quantities of measles antibody, and it is possible therefore that seroprophylaxis and serotherapy will prove effective in treatment.

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Medical News in brief

TREATMENT OF BLEEDING PEPTIC ULCER

Between 1935 and 1957, 1433 cases of bleeding gastric or duodenal ulcer were treated differently by Römcke *et al.* (*Lancet*, 2: 990, 1959) in three periods: 1935-41, all were treated conservatively (262 cases); 1941-50, a few were operated on (35 out of 593 cases); and 1951-57, a larger number of patients were operated on (88 out of 578). For patients with recurrence or continued hæmorrhage the total mortality fell from 16.6% and 16.9% in the first and second periods to 6.9% in the third period. For patients over 60 years with recurrence of hæmorrhage, increased operative intervention appears to have accounted for a reduction of 11% in the total mortality rate for this age group.

One major indication for early operation in the third period was to have been hæmorrhage continuing in a patient over 45 years who had received adequate treatment in hospital. However, not all patients reported as having recurrence or continuation of hæmorrhage received surgical treatment, because the authors included all cases in which there was the slightest recurrence or continuation of hæmorrhage, Further, the number of patients over 45 years is not given, nor the number of them operated on. The attempted distinction, therefore, between the method of treatment in period two and that in period three—minimal operative intervention and maximal operative intervention, respectively—has unfortunately not been made clear, and few conclusions can be drawn from the results.

CLINICAL EXPERIENCE WITH URINE PAS TEST

Many patients do not tolerate PAS in adequate dosage because of side effects or the inconvenience of ingesting many tablets of relatively large size throughout the day. Many not taking the drug do not inform their physicians of this fact or vigorously deny their lack of adherence to a prescribed program. Recently there appeared in the literature a test suitable for the detection of PAS or its decomposition products in the urine. The results of clinical experience with the test are reported by Pitman, Benzier and Katz (*Dis. Chest*, 36: 1, 1959).

The test is as follows: 0.5 ml. of standard Erlich's reagent (0.7 g. of p-dimethylamino-benzaldehyde in a mixture of 150 ml. of conc. HCl and 100 ml. of H_2O) is added drop by drop to 5 ml. of urine. PAS can be detected by the immediate development of a lemon-yellow colour, with an orange or yellow precipitate if there is much PAS (i.e. about 1%). In practice it has been found that if the patient has taken PAS the previous night (in the dosage prescribed, 4 g. t.i.d.), the test was able to detect PAS in the first morning specimen. However, the second specimen might be negative unless the morning dose of PAS had been taken.

Of the 61 patients studied by the urine test, 36 gave a positive reaction, shown by the development of an orange or yellow precipitate in the urine; 25, a negative reaction. All negative reactors admitted upon questioning that they were taking PAS intermittently, irregularly, or not at all. In the positive-urine test group, all were recalled for questioning. Four of the 36 upon questioning admitted not taking their PAS regularly.

In any study of drug therapy, it is important to be sure that the medication is taken as prescribed. Thus, this test should be used periodically in these long-term studies of PAS effectiveness to be certain that we do not falsely ascribe benefits to a drug which the patient may not be taking.

PAS sodium, as used in many clinics, is far from being the ideal drug for outpatient treatment of pulmonary tuberculosis. The side effects and the large number of pills (24 per day) required make it difficult for the patient to continue the medication as prescribed. It would appear that some other form of PAS should be sought to minimize this problem.

SURVIVAL OF A BONE-MARROW GRAFT

There are several reports in the literature about treatment of cases of leukæmia or radiation sickness by transfusion of bone-marrow. The latest (*Brit. M. J.*, 1: 96, 1960) comes from Beilby and his colleagues of London, England, and reports a case in which a bone-marrow transfusion resulted in a successful "take", with the blood group picture of a red-cell chimera. The donor graft still persists after nine months.

The patient in question was suffering from acute bone-marrow failure due to chemotherapy for Hodgkin's disease, and was given a bone-marrow transfusion from her sister. The case is claimed to be unique, in that there was evidence of prolonged survival of the graft, whereas in previous reports about one month has been the longest survival. It is believed that administration of the bone-marrow within an hour of its removal from the donor, and the timing of administration (some 15 days after the patient's marrow had ceased to function) may have helped in promoting this result.

THE RESULTS OF HÆMORRHOIDECTOMY

According to Cormie and McNair of Edinburgh (*Scot. M. J.*, 4: 571, 1959) the detailed results of hæmorrhoidectomy are rarely surveyed. In one unit of the Royal Infirmary of Edinburgh, two methods for the treatment of hæmorrhoids are in use: dissection-ligature and simple clamp-and-cautery. The authors took advantage of the presence of these two methods of treatment to make a comparison of the long-term results of both. They analyzed a series of 163 patients, and found that in convalescence, dissection and ligature gave rise more frequently to severe pain, to retention of urine and to postoperative hæmorrhage. Final results, however, were strikingly similar with both methods, each showing that 65% of the patients had an excellent result and approximately another 30% a moderately good result. Clamp-and-cautery led to more common presence of skin tags but these caused no symptoms.

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Men and Books

THE ANTI-SCURVY CLUB, 1606 A.D.*

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YESTERDAY I stood on the plot of Edinburgh Castle, which, by Royal Decree of James I of England (James VI of Scotland), is Nova Scotia soil. In 1623, on that spot, James ceded Nova Scotia to Sir William Alexander. Standing there, I found the three centuries an easy backward leap. Twenty years more, to the turn of the sixteenth century was only a step. The North Atlantic Ocean, then, was a busy waterway. The Renaissance was diffusing from the great thinkers to the great doers and, through them, from Europe to the New World beyond. The trans-Atlantic journey shrank from the months of a century before to weeks. Fishermen put out from Portugal and Spain for the Grand Banks of Newfoundland. Fur traders from England, both chartered and unchartered, and adventurers from all over plied the sea lanes.

Of loftier purpose were the men who sailed west with the joint aims of exploration, colonization and the salvation of Indian souls. Samuel de Champlain was one of these.

In April 1604, he put out from Havre-de-Grâce under Sieur de Monts, who had a grant from the king to colonize Acadie. The Baron de Poutrincourt sailed with them.

Exploring the Bay of Fundy, along Nova Scotia's north shore, they sounded their way through a narrow inlet. "We entered one of the finest harbours I had seen along these coasts," said Champlain. "A harbour in which two thousand vessels might lie in security. I have named it Port-Royal."

The rolling hills, green to the water's edge, the tranquil basin and the sparkling streams emptying into it entranced them. They sailed on, but it was a place to remember. Two years later, in 1606, Champlain and Poutrincourt, now joined by Marc Lescarbot, returned, and on the northern shores of the basin set up their habitation, the first colonization in the new world.

The habitation stands today as it did 350 years ago, recreated from the records of Champlain and Lescarbot out of the same forests, handhewn, with a truth that carries you back over the years, so that you can see the table in the great hall crowded with its banquet horde. You can hear the medley of French story, laughter and song, mingled with the sonorous Micmac of the Indians and the universal prattle of the Indian children. You can smell the rich spiced meats and puddings steaming in the nearby kitchen, the aroma blending with the sweat of the unwashed Indian bodies and perhaps the unwashed French bodies as well, glowing before the great, roaring fire. This was the Order of the Good Time.

"To keep our table joyous and well provided," said Lescarbot—this was its purpose. "To this order," he wrote, "each man is appointed chief steward in turn. His duty was taking care that we were all well and honourably provided for; for there was no one who, two days before his turn came, failed to go hunting or fishing to bring back some delicacy in addition to our ordinary fare."

"The ruler of the feast marched in, napkin on shoulder, wand of office in hand and around his neck the collar of the Order which was worth more than four crowns; after him all the members of the Order, carrying each a dish . . . And at night, before giving thanks to God, he handed over to his successor in the charge, the collar of the Order with a cup of wine and they drank to each other. We had abundance of game, such as ducks, bustards, grey and white geese, partridges, larks and other birds; moreover moose, caribou, beaver, otter, bear, rabbits, wild cats, raccoons and other animals such as the savages caught, whereof we made dishes well worth those of the cookship of Paris and far more; for of all our meats none is so tender as moose meat and nothing so delicate as beaver's tail. Yea, sometimes we had a dozen sturgeon at once. As for the ordinary rations brought from France, they were distributed equally to great and small alike and the wine was served in like manner."

Honoured guests were the Indian chiefs. They sat with their hosts, while the lesser warriors, squaws and children were about the floor of the hall content with their handed-down portions.

Through the long winter of 1606-1607 the Order of the Good Time thrived. It brought happiness to lonely men, and fortified their spirits against Canadian winter. But its motives lay deeper than good cheer, as deep as survival. To know them we must know the founders: Lescarbot, Poutrincourt and Champlain.

Champlain was the originator; but many of the colourful flourishes came from Lescarbot, poet, dramatist and idealist. He was a lawyer who came to Acadie not for fortune nor with the explorer's instinct but, as he said, "Desirous . . . to see the district with my own eyes and flee an evil world."

But Lescarbot was not a dreamer, not and survive in the wilderness. It was he who constructed much of the habitation while Champlain and Poutrincourt explored the New England coast during the summer of 1606. It was Lescarbot who wrote a play, the first drama in the new world, and produced it on the shores of the basin, to welcome them to their new home.

A good life, healthy, spiritual, full of beauty, with time to think and time to play: these were the aims of Marc Lescarbot.

The Baron de Poutrincourt, weary of the strife and perfidy of life in France, was seeking security. This was to be his future home. He was a family man and his family were far away. The sooner a little civilization could be set up, the sooner they could join him. His objective was clear.

Champlain was the man of action. He had already made several voyages to the new country. He explored the eastern seaboard as far south as Mexico. He roamed into the north with an old Indian guide in search of a legendary copper mine. He was always on the move. His records are illustrated with his own drawings and maps, crude and informative. He wrote about a proposed canal across Panama, "The voyage to the south sea," he said, "would be shortened by more than fifteen hundred leagues." And with the same pen, because it was an essential step in colonization, he planned the Order of the Good Time.

Two years before, Champlain had spent the winter on an island in the mouth of the St. Croix River, across the Bay of Fundy from Port-Royal. His choice of site

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was well reasoned but, he said, "It would be very difficult to ascertain the region without spending a winter in it." By spring he had learned the grim truth. In the course of three months there died "thirty-five out of a company of seventy-nine, with twenty more barely escaping with their lives".

The disease was scurvy. Jacques Cartier described it at Stadacona on the St. Lawrence River seventy years before St. Croix: "Some did lose all their strength and could not stand on their feete, then did their legges swel, their sinowes shrinke as blacke as any cole. Others also had all their skins spotted with spots of blood of a purple colour; then did it ascend up to their ankels, knees, thighes, shoulders, armes and necks. Their mouth became stincking, their gummes so rotten that all the flesh did fall off even to the rootes of the teeth which did almost all fall out. With such infection did this sickness spread itself in our three ships that about the middle of February of a hundred and tenne persons that we were, there were not ten whole."

In vain had Champlain at St. Croix sought the arbor vitæ and its curative brew which Cartier had got from the Indians to stave off ultimate disaster. The tree was probably the ordinary spruce. What he failed to discover was the preparation of the extract without destroying its ascorbic acid.

Too weak to dig graves, they buried their dead beneath the snow at St. Croix; buried the rotting bodies over again, after the spring thaw.

Along with his many plans for the whole exciting New World future, this was the memory Champlain bore to Port Royal.

If, in their new world, the explorers escaped the infectious diseases which ravished Europe; if, in their simple civilization, they did not develop atherosclerosis and intestinal ulcerations, they must nevertheless have had appendicitis, pneumonia and cancer. But these and more were of little matter compared with the scurvy. At St. Croix, Champlain wrote, "We had scarcely any strength . . . We ate only salt meat and vegetables during the winter, which produce bad blood. The latter circumstance was in my opinion a partial cause of these dreadful maladies."

From Port Royal, Champlain with Lescarbot and Poutrincourt must have looked across Fundy toward St. Croix. If they were to live, if each were to preserve more than the remnants of his dream, the scourge must be turned back.

In 100 millilitres of normal human plasma the concentration of ascorbic acid is 0.7 milligrams. If the blood level falls to 0.4 mg., the clinical signs of scurvy appear. A normal blood level is maintained by the daily intake of 50 mg. of ascorbic acid. How was this achieved through the Order of the Good Time?

Poutrincourt, the home body, took the first step. He put men in the fields, planting wheat, rye, hemp and other seeds to learn how they would grow. These early crops were small, but they must have served to garnish the banquet tables at least well on into the winter.

Champlain had blamed the St. Croix epidemic on bad food. Food came first in the Order of the Good Time. Fresh air—that came next. Hardy the French explorers were, but not to Canadian winter. Champlain drove them from their winter fireside, into the open. This made a man hungry. He ate more—perhaps more vitamin C.

The friendliness Champlain encouraged with the Indians was more than good Christianity. Many of the colony went off with them on bivouacs through the winter; worked, slept and ate with them—ate the foods which the natives knew, with near animal instinct, would keep them well.

Lescarbot pored over Champlain's journals of St. Croix. His ideas were not all sound. "He who eats capons, partridges, ducks, rabbits, may rest assured of his health," he said, "unless his constitution is but weak." It is the salted bilious meats he decries. Perhaps this observation rested on the fact that the more delicate fresh meats went to the tables of the masters who, on the whole, escaped the scurvy better than their men. How could Lescarbot know that the scurvy prophylactic lay not in the partridges and larks, but in the additional green embellishments for the masters?

"Good wine," he said, "taken in such quantities as nature craves, is a sovereign specific against all complaints. This one in particular. Our patients, even though their mouths were sore"—they had some scurvy, you see, despite their efforts—"and they could not eat, never lost their taste for wine."

Compare this with the statement of Wortis, Wortis and Marsh (*Archives of Neurology and Psychiatry*, volume 39, 1938) that in alcoholic hallucinosis, delirium tremors and Korsakoff's psychosis the concentration of vitamin C in the blood was decreased to about 0.3 milligrams per 100 millilitres.

This suggests a power in alcohol to destroy vitamin C. But before discrediting Lescarbot's theory, remember his practical experience with scurvy compared with that of our contemporary chemists. Might it not be that, rather than destroying vitamin C in the blood, wine enabled the individual to carry on normally at a lower concentration?

"The tender herbs of springtime," says Lescarbot, "are also a sovereign remedy. This is not only in accordance with reason but I have tried it, often going myself to gather them in the woods for our patients."

Now he advances from therapy to prophylaxis, from the organic to the psychic. From his poet's soul he joins in exhortation with the more practical Champlain. "Nothing is better," he says, "for a man than to rejoice and do good in his life and rejoice in his own works. Those of our company who behave thus fared well while, on the contrary, some who were continually grumbling, finding fault, discontented do-nothings, were seized."

"One further preservative is necessary," Lescarbot writes, and I am sure he must have been talking with Poutrincourt, "that is to complete a man's content and to fill up his pleasure in his daily task, which is that each man should have the honourable company of his married wife; for if that be lacking the Good Time is not complete. One's thoughts turn ever to the object of one's love and desire, homesickness arises, the body becomes full of ill humours and disease makes its entrance."

Thus it was the three wise men of Port-Royal founded the Order of the Good Time; built on Champlain's love for adventure, Poutrincourt's search for a home in the wilderness, and Lescarbot's probings for happiness of soul.

In Tantallon, on St. Margaret's Bay, across Nova Scotia from Port-Royal, I like to wander from our cottage down over the hill and through the woods to the sea. Even on the snowiest winter day, like Poutrincourt, I am happy there, because it is home. Like Champlain, I exult in the vigour of the air. Like Lescarbot, I find

peace settling on my soul. I kick the loose snow from the brittle bare bushes and beneath them on the turf sprout the hardy little leaves of the American wintergreen. It grows all over Nova Scotia, from Port-Royal to Tantallon, grows robust with the snow upon it, and here or there a dauntless red berry. I chew the berries and after they thaw in my mouth the unique pleasant flavour comes to life. In winter the berries are few, but the leaves have the same flavour and I munch them as I walk along.

The Tantallon wintergreen leaf contains 190 milligrams of vitamin C in 100 grams; the orange and lemon, 45 milligrams. At 190 milligrams, a pocketful of wintergreen leaves chewed on a winter walk yields the body's daily need.

History does not record it; I have no scientific proof; but I like to think that they did in Port-Royal as I do in Tantallon and that the red berries graced the table in the great hall.

Despite their efforts, scurvy did come in the severe cold of the late winter. But Francis Parkman says, "Good spirits and good cheer saved them in great measure. Only four men died."

Spring came and the glory of the little colony faded for a time. Poutrincourt was recalled. His dream waited for his successors. Champlain went on, ever bustling, across the ocean a score more times. Marc Lescarbot returned to Paris and the law, I'm afraid.

The habitation rotted and fell in time, but it had to be rebuilt, as I have told you, board by board, peg by peg, because the Order of the Good Time still thrives in Nova Scotia.

GENERAL PRACTICE

THE EVALUATION OF THE PHYSICAL, PSYCHOLOGICAL, SOCIAL, AND ECONOMIC FACTORS IN THE PATIENT'S ILLNESS

A PRAIRIE PRACTITIONER'S VIEWPOINT*

C. J. HOUSTON, M.D., *Yorkton, Sask.*

SUCH A TOPIC flavours of the didactic and theoretical, and would, I am sure, receive its best treatment in the hands of one whose vocation is the instruction of medical students. My justification is that I bring to the discussion the approach and the philosophy of one who is not a teacher, but a practitioner of medicine; one who serves his fellow-man, not in a university centre, but on the proving ground of general practice, in a prairie province of Canada.

In presenting this viewpoint I propose to emphasize certain features which are pertinent to this type of practice, and which, therefore, influence the practitioner's evaluation of the patient and his illness.

*Presented at the conjoint annual meeting of the B.M.A. and C.M.A. in Edinburgh, July 1959.

WHO SHOULD EVALUATE?

The first point I wish to make is this: A good general practitioner is the person best fitted to make such a comprehensive evaluation of the physical, psychological, social, and economic factors in the patient's illness.

The second point of emphasis is that such evaluation is more effectively carried out, and is more advantageous to the patient, when executed by one person—the family doctor—than when carried out by a collection of specialists and ancillary personnel.

I feel strongly that a general practitioner who knows the patient and his home, his friends, his moods, his problems, and his socio-economic status will make fewer errors in the evaluation of these factors than will be made by a squad of able visiting nurses, social workers, and psychologists. Complicating the "method of evaluation" does not necessarily improve it.

A third point—and one about which I feel quite strongly—is that there is great advantage to both patient and doctor if treatment is carried out by the doctor making the original evaluation of the case. Over 90% of the patient's illnesses can be treated by a good general practitioner—giving better service, and getting equal or better results, than if treatment and diagnostic services were separated. My third point then is this: The doctor who evaluates the patient should treat the patient.

But to return to the evaluation of the illness—we have referred to the four factors involved: physical, psychological, social and economic. Yet the patient is one being, and in our comprehensive consideration of his problems we must, of course, assess each factor separately and definitively, and evaluate them all collectively and relatively.

It is quite true that all four factors named are present in almost every illness. The presence of each factor must be considered, and its relative importance established. The relative importance of each factor is never the same in any two cases or indeed at any two times in the same illness.

The task of evaluation and assessment is not simple. It is, in fact, the true test of clinical judgment. And the worth of the evaluation depends on the worth of the man who completes it. That man's worth in turn depends on his judgment, his experience, his integrity, and his training. But it is influenced also by his origin and environment, and this is what leads me to elaborate on the "prairie practitioner's viewpoint".

The Prairie Practitioner

In Canada, geography alone has decreed that a large portion of our population must receive its medical care from doctors who are called general practitioners. These doctors carry out a greater variety of medical procedures than do their counterparts in the United Kingdom. Their ranks include many with specialist degrees or qualifications, who are still doing general practice from choice.

To evaluate further the environment in which the doctor works, I suggest that we place him in an imaginary community typical of the prairie scene. Let us say that he lives in a town of 700-1000

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people in a farming community situated 200 miles from the nearest medical centre of teaching calibre, and let us assume that he utilizes a small hospital of 15 to 25 beds and that no other doctor or hospital exists for 40 miles in any direction.

He is responsible for primary medical care of some 3000 people. He provides general care of acute and chronic disease, treats fractures, performs minor surgery and on occasion major surgical procedures. He looks after all the obstetrical confinements. These are all cared for in hospital; there are no midwives. He will be expected to care for 90% of the population's illness. He is a very busy man.

All serious cases, medical and surgical, are admitted to hospital; hospital care is prepaid by all and for all.

Most patients will consult him in his office, and it is here that most will be evaluated. Home visits are few in number. His work is, thus, concentrated largely in office and hospital. Little time or effort is wasted by having to take medical care to the patient.

The patient, on his part, is a free agent. He may consult any doctor of his choice anywhere in the province, and he is entitled to hospital care in any hospital. Social and economic barriers to the patient's movement are minimal. As for geographic barriers, the automobile has made us a nation of gypsies on wheels, and better transportation of all types has lessened the handicap of distance.

The doctor, for his part, is living in a free but competitive atmosphere. His professional existence depends more on this one thing than on any other —the quality of service rendered to his patients.

So much for the background of prairie general practice. How does this affect the doctor's evaluation of the various factors in the patient's illness?

THE FOUR FACTORS

Physical Factor

Let us first consider the physical factor. In an agricultural community, the greater number of patients still present themselves with organic ailments. The physical factor is still important, and the history and physical examination are as essential as ever.

Our prairie physician will conduct the physical examination in a modern, well-equipped office—often in one built specially for this purpose. He will have the commonly required diagnostic aids at hand. These will include the simple laboratory examinations of urine and blood; and the more usual forms of x-rays will be at hand in the local hospital.

Our doctor will attempt to finalize a diagnosis in his office. In actual fact, he will conduct a very adequate evaluation of the physical aspects of the patient's illness. In the small group of patients where the diagnosis is in doubt, he will, of necessity, refer the patient to some distant point for consultative specialist opinion.

He is forced to become self-reliant. He is sometimes criticized for being hurried, and for being more practical than theoretical. He is prone to think that the specialist should be consulted only for the unusual and the difficult. But in the final analysis our general practitioner knows that his diagnosis must meet the acid test of response to treatment. In his hands the physical factor must be, and is, well and adequately evaluated.

Psychological Factor

In illness in any part of the world the psychological is the most difficult factor to assess accurately. Complaints with a psychological basis undoubtedly are responsible for bringing a high and increasing number of patients to the doctor.

It is true, I think, that there is at least a small psychological factor in every illness. It is probably of some significant importance in 90% of illness. Even the amount of pain suffered from a fracture has a psychological component. Its evaluation is difficult; it may be over-stated by the patient or under-rated by the doctor. The picture is never simply black or white; the varying shades of grey are a constant challenge to the doctor's diagnostic acumen.

In each case the psychological factor must be rated subconsciously while the doctor is obtaining the intimate details of the medical and personal history, while conducting the physical examination and, for that matter, even while carrying out treatment.

It is a continuing task, and during all this the family doctor is in a unique position. He has the advantage of knowing the patient's environment, his background, his family, his faults, his friends: so many of those forces which influence the patient's problem.

In the hands of our prairie doctor, we may say, then, that the psychological factor will receive a practical and common-sense evaluation rather than a scientific study. Yet, because of the intimate relation between patient and doctor, the percentage of error will be small, and subject to improvement on constant re-evaluation.

Social Factor

Social and economic circumstances, quite obviously, are at times responsible for a patient's illness. More often, perhaps, they are a factor in delaying recovery. Students of the social sciences tend to regard these factors as of prime importance. However, in our hypothetical prairie community I feel that most people would relegate them to a minor place.

In rural Saskatchewan today, there is little social consciousness. What social strata exist are ignored by most. The mechanic, the farmer, the professional man and the labourer all work together and in harmony. What is more important, in seeking recreation they behave as one family. In this respect social factors need cause few problems in our evaluation of the patient's illness. Problems involving the social behaviour of the individual are, of course, another matter and similar the world over. But standards of behaviour in rural living have characteristics which distinguish them from those of industrial urban areas. People live closer to nature. Their lives are influenced less by artificial values. Also I think they

have a greater sense of individual and community responsibility than is found in the denizen of the larger city. Perhaps it is enough to say that the social factor in the patient's illness does, at least, have a special flavour in rural practice.

In passing I might mention two other problems which are peculiar to the social structure in western Canada. (1) With the great influx of central European immigrants at the turn of the century and since, language difficulties have imposed some barriers and produced a few problems. This factor still requires evaluation at times but is gradually disappearing with the emergence of a more uniform Canadian citizen from this melting pot of the nations. (2) Another item worth mentioning is the increasing proportion of higher age groups in our population. The pioneer, inured to hardship, and by nature self-reliant and proud, sought only urgent medical care. One could be sure his complaints were genuine. Security and ease which seem so desirable to us all have strange effects on the spirit. Today, increasing reliance on state aid in these older groups has definitely added a new social factor to be evaluated.

But whatever the social factors under consideration, and whatever their solution, their evaluation in an illness can best be made by the family doctor rather than by an itinerant clique of factory-trained investigators.

Economic Factor

And now we come to the economic factor in the patient's illness. Today, this factor is perhaps of less importance in the causation of illness than ever before in history, and perhaps less so in the Canadian west than in industrial England. In many parts of the world hunger and poverty and all their associated evils rank high as causes of both morbidity and mortality. When one looks upon our brethren in less fortunate parts of the world, one cannot but feel uncomfortable and apologetic, rather than proud, of our high standard of living in the Western world. In my province, I must confess, over-indulgence is a much more common cause of morbidity than is want or a substandard economic status.

I think also that the trend to greater uniformity of income, greater uniformity of educational privileges, and more universal availability of medical methods will in time lessen the need for emphasis on the economic factor in the patient's illness.

Nevertheless, at the moment, it is still frequently necessary to consider his economic status in evaluating a patient's condition. But in a rural community where everyone knows everyone else's business, the doctor even now has a comparatively easy task.

It is part of the proud tradition of our profession that we have always been alert and sympathetic to the economic aspect of our patient's troubles. But in the past half-century a new angle has intruded in the doctor-patient relationship, and this in turn has produced a new facet of the economic factor in the patient's illness. I refer to the problem of how medical care is financed, that is, whether it is financed privately or under the ægis of some third party, such as an insurance agency or the state. In any event, we now have thrust upon us a new economic factor which does have a real bearing on the validity of the patient's complaints.

In Canada, the average doctor still receives the bulk of his remuneration from private practice. But there are a large number of prepaid insurance plans and an increasing number of state-sponsored schemes. In evaluating the patient's illness it is frequently necessary to inquire where the responsibility for payment lies. There is more malingering, more exaggeration of symptoms, and more demands for service when a third party pays the bill. One cannot avoid the impression that the mere fact of paying one's own way lends a sense of responsibility and dignity to any man's action.

As the individual leans more heavily on a paternal government, this facet of the economic factor will require increasingly closer scrutiny and appraisal by the family doctor, and indeed by everyone.

CONCLUDING REMARKS

The men who strive against illness share a brotherhood of interest, knowledge, and understanding such as is granted to few groups or professions in this world. Nevertheless, there are local differences and I trust I have given some small insight into a prairie practitioner's viewpoint. As I have said, it is a "practical" viewpoint. To support the claim that it is effective I wish to refer to some illustrative data in different fields of medicine.

In 1957, Saskatchewan had a maternal mortality rate of 0.2 per 1000 live births. Few parts of the world report a better rate, and this good result is predominantly from general practitioner obstetrics. Our neonatal mortality rate is also good. For years Saskatchewan's tuberculosis program with its low death rate was the envy of the world. Our cancer program also has survival rates that compare well: for example, we have a five-year survival rate for breast cancer which is not bettered anywhere. In these good results the general practitioner must be and is accorded full recognition for his early and excellent evaluation of the patient's illness. I mention these examples simply to emphasize that the finest medical care in the world can be supplied largely through an independent general practitioner service. The aim of our profession is, and always has been, to see that the highest quality of medical care is received by the greatest number of people. A high place, therefore, must be accorded the general practitioner in any program aimed at achieving this end.

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PRELIMINARY PROGRAM

FOR THE

93rd ANNUAL MEETING

OF

The Canadian Medical Association

BANFF, ALBERTA

June 13 - 17, 1960

The 93rd Annual Meeting of The Canadian Medical Association will be held at Banff, Alberta, Monday, June 13, through Friday, June 17, 1960. Convention headquarters will be the Banff Springs Hotel. The timetable of the scientific sessions and social events will be as follows:

Monday, June 13 Tuesday, June 14	Meeting of the General Council
Tuesday, June 14	7.00 p.m.—Barbecue Supper
Wednesday, June 15	9.00 a.m. - 5.00 p.m.—Scientific Sessions 8.30 p.m.—The Annual General Meeting President's reception and dance
Thursday, June 16	9.00 a.m. - 5.00 p.m.—Scientific Sessions 9.00 a.m. - 5.00 p.m—Sessions in Medical Economics 8.30 p.m.—Panel discussion—Medical Economics
Friday, June 17	9.00 a.m. - 12.30 p.m.—Scientific Sessions 2.00 p.m.—Golf Tournament

PRELIMINARY SCIENTIFIC PROGRAM

Wednesday, June 15

ROUND TABLE CONFERENCES

9.00 - 10.15 a.m. — Ballroom

Modern Concepts of the Management of Allergy

Chairman:
DR. J. D. L. FITZGERALD, Toronto

Participants:
DR. C. H. A. WALTON, Winnipeg
DR. JACQUES LEGER, Montreal
DR. T. H. AARON, Edmonton
DR. BRAM ROSE, Montreal

9.00 - 10.15 a.m. — Mount Stephen Hall

Physical Fitness

Chairman:
DR. OLAV ROSTRUP, Edmonton

Participants:
DR. M. CARPENDALE, Edmonton
DR. ROBERT S. FRASER, Edmonton
DR. MAURY VAN VLIET, Edmonton

9.00 - 10.15 a.m. — Oak Room

An Evaluation of Blood Transfusion

Chairman:
DR. NORMAN E. FOSTER, Calgary

Participants:
DR. CECIL E. C. HARRIS, Montreal
DR. JOHN D. DUFFIN, Calgary
DR. THOMAS R. NELSON, Edmonton
DR. CHARLES F. MCCULLOCH, Calgary

GENERAL SESSION

10.30 a.m. - 12.15 p.m. — Ballroom

Chairman: DR. E. KIRK LYON, Deputy to the President

Secondary Operations on the Gallbladder and Bile Ducts
DR. RICHARD B. CATTELL, Boston

Sex Chromatin, Sex Chromosomes and Sex Anomalies
DR. MURRAY L. BARR, London, Ont.

Blood Coagulation in Acute Renal Failure and Open Heart Surgery
DR. LOUIS LOWENSTEIN, Montreal

SESSION A

2.00 - 5.00 p.m. — Ballroom

Chairman: DR. DONALD R. WILSON, Edmonton

Drugs in the Management of Rheumatoid Disease
DR. A. W. BAGNALL, Vancouver

Criteria for the Interpretation of the Two Step Test
DR. ISADORE ROSENFELD, New York

Hypoglycæmia in Infants and Children
DR. W. A. COCHRANE, Halifax

A Ten-Minute Test of Thyroid Function
DR. H. PATRICK HIGGINS, Toronto

Drug Therapy for the Psychiatric Patient
DR. DONALD S. LINDSAY, Calgary

SESSION B

2.00 - 5.00 p.m. Mount Stephen Hall

Chairman: DR. WALTER C. MACKENZIE, Edmonton

Emergency Treatment of the Patient with Bleeding Œsophageal Varices
DR. SAMUEL KLING, Edmonton

The Differential Diagnosis of Acute Pain in the Upper Abdomen
DR. BROCK E. BRUSH, Detroit

Radiological Examination of the Biliary Tract
DR. OWEN V. GRAY, Toronto

Cervical Carcinoma in Situ
DR. ALBERT B. BROWN, Saskatoon

Arterial Trauma
DR. R. GORDON TOWNSEND, Calgary

SECTION OF GASTROENTEROLOGY

2.00 - 5.00 p.m. Oak Room

Chairman: DR. R. D. MCKENNA, Montreal

Post-Gastrectomy Problems
DR. J. A. L. GILBERT, Edmonton

Experiences With 500 Photoscans of the Liver
DR. D. A. FEE, Saskatoon

The Significance of Jaundice in Acute Pancreatitis
DR. D. R. WALCOTT, Vancouver

Intestinal Malabsorption (Panel Discussion)
Moderator:
DR. R. D. MCKENNA, Montreal
Participants:
DR. LOUIS LOWENSTEIN, Montreal
DR. D. G. KINNEAR, Montreal
DR. D. J. BUCHAN, Saskatoon
DR. M. J. SMART, Saskatoon

Thursday, June 16

ROUND TABLE CONFERENCES

9.00 - 10.15 a.m. Ballroom

New Developments in Cardiac Surgery

Chairman:
DR. ROBERT S. FRASER, Edmonton

Participants:
DR. PETER ALLEN, Vancouver
DR. EDOUARD D. GAGNON, Montreal
DR. GORDON R. CUMMING, Winnipeg
DR. DORIS KAVANAGH, Vancouver
DR. JOHN C. CALLAGHAN, Edmonton

9.00 - 10.15 a.m. Mount Stephen Hall

Cancer of the Breast
Chairman:
DR. WALTER C. MACKENZIE, Edmonton

Participants:
DR. R. C. HARRISON, Edmonton
DR. C. L. ASH, Toronto
DR. RICHARD B. CATTELL, Boston, Mass.
(Other participants to be announced)

9.00 - 10.15 a.m. Oak Room

Oral Drug Therapy in Diabetes
Chairman:
DR. J. M. KILGOUR, Winnipeg
Participants:
DR. DONALD R. WILSON, Edmonton
(Other participants to be announced)

GENERAL SESSION

10.30 a.m. - 12.15 p.m. Ballroom

Chairman: DR. EDWARD F. BROOKS, Toronto

Sagacity and Science in the Practice of Medicine (The Osler Oration)
SIR FRANCIS WALSHE, London, England

Birth Injury and the Development of Neurological Lesions
DR. HADDOW M. KEITH, Rochester, Minnesota

SESSION A

2.00 - 5.00 p.m. Ballroom

Chairman: DR. DONALD L. MCNEIL, Calgary

Childhood Obesity
DR. DONALD R. WILSON, Edmonton

The Clinical Significance of Small Bowel Function
DR. R. D. MCKENNA, Montreal

Importance of Cardiac Catheterizations in the Infant Cardiac
DR. DORIS KAVANAGH, Vancouver

Health Problems in the Arctic
DR. J. A. HILDES, Winnipeg

Management of the Respiratory Cripple
DR. JOHN E. MERRIMAN, Saskatoon

SESSION B

2.00 - 5.00 p.m. Mount Stephen Hall

Chairman: DR. H. V. MORGAN, Calgary

Toxæmias of Pregnancy
DR. D. R. BUCHANAN, Calgary

Common Orthopædic Problems in Childhood
DR. ROBERT B. SALTER, Toronto

The Traumatic Chest
DR. H. MELTZER, Edmonton

Manipulation and Back Pain
DR. W. B. PARSONS, Red Deer

SECTION OF MEDICAL ECONOMICS

10.30 a.m. - 12.15 p.m. Oak Room

Chairman: DR. A. H. LYON, Windsor

Experience With Various Methods of Individual Enrollment
MR. C. H. SHILLINGTON, Toronto

The Role of Major Medical in Health Care Insurance
MR. E. D. MILLICAN, Montreal

2.00 - 5.00 p.m. Oak Room

Chairman: DR. R. K. C. THOMSON, Edmonton

Current Developments in Medical Care Insurance in Saskatchewan
DR. JOHN D. LEISHMAN, Regina

The Implications Involved in the Extension of Diagnostic Services, as Insured Services, to Outpatient Departments
DR. GLENN SAWYER, Toronto

Canadian Labour's Approach to Providing Comprehensive Health Services Through Organized Health Centres
MR. T. GOLDBERG, Toronto

8.30 p.m. Mount Stephen Hall

The Future of Voluntary Prepayment Mechanisms in the Health Care Field (Panel Discussion)
Moderator:
DR. J. A. MCMILLAN, Charlottetown
Participants:
MR. D. E. WATTS, Toronto
MR. GORDON F. FERGUSON, Toronto
DR. E. C. MCCOY, Vancouver
(Other participants to be announced)

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Friday, June 17

ROUND TABLE CONFERENCES

9.00 - 10.15 a.m. Ballroom

Hormone Therapy in Gynæcology

Chairman:
DR. GWYN S. THOMAS, Calgary

Participants:
DR. ALBERT B. BROWN, Saskatoon
DR. A. WILSON ANDISON, Winnipeg
DR. A. H. MACLENNAN, Edmonton
DR. JOHN W. DAWSON, Calgary

9.00 - 10.15 a.m. Mount Stephen Hall

Problems Confronting the Surgical Team from Current Medication

Chairman:
DR. JOHN H. A. LAWRENCE, Calgary
Participants to be announced

9.00 - 10.15 a.m. Oak Room

Anæsthesia and the Heart

Chairman:
DR. GORDON M. WYANT, Saskatoon
Participants:
DR. A. J. KERWIN, Toronto
DR. C. M. COUVES, Edmonton
DR. JEAN-PAUL DECHENE, Quebec
DR. A. B. DOBKIN, Saskatoon

GENERAL SESSION

10.30 a.m. - 12.15 p.m. Ballroom

Chairman: DR. R. MACGREGOR PARSONS, Red Deer

An Improved Method for the Diagnosis of Solitary Pulmonary Nodules

DR. L. HENRY GARLAND, San Francisco

Governments and Doctors

DR. EDWARD R. C. WALKER, Edinburgh

The Threat of the Modern Laboratory to the Art and Science of Medicine

DR. IRWIN M. HILLIARD, Saskatoon

RAILWAY TRAVEL TO BANFF

Members and their families attending the 93rd Annual Meeting, Banff, June 13-17, may take advantage of the substantially reduced railway fares which have been arranged. This privilege will also be available to those attending the meetings of affiliated societies meeting in Banff immediately before and after C.M.A. week.

Adult round trip fares going and returning by the same route amount to one and one-half times the normal adult one-way fare plus 25c. Similar reductions are available for travel by diverse routes and for children under twelve.

The authorized dates for the start of the going journey are:

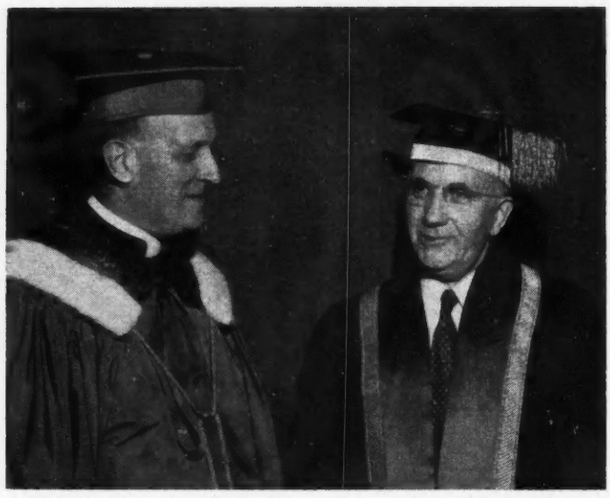
(a) from all stations west of Armstrong and Port Arthur, Ontario, June 9-19 inclusive;
(b) from all stations east of Armstrong and Port Arthur, Ontario, June 6-16 inclusive;
(c) from stations in Newfoundland, June 3-13 inclusive.

Identification Convention Certificates may be obtained on application to the General Secretary, The Canadian Medical Association, 150 St. George Street, Toronto 5.

MEDICAL SOCIETIES

THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA

At the 29th Annual Meeting of the Royal College of Physicians and Surgeons of Canada, held in Montreal on January 21-23, Dr. Charles E. Hébert, Montreal, Vice-President in Surgery, is seen with Dr. Donald A. Thompson of Bathurst, N.B., President; Dr. L. G. Bell, Winnipeg, Vice-President in Medicine; and Dr. John W. Scott, Edmonton, Past-President.



Monseigneur Irénée Lussier, Rector of the University of Montreal, with Dr. Scott at the 1960 Convocation of the Royal College, held in the auditorium of the University.

B.M.A. COUNCIL

The British Medical Association Council met on January 20, and the most important item on its agenda was consideration of a report entitled "Relation of alcohol to road accidents" prepared by a special committee under the chairmanship of Professor E. J. Wayne, who recently visited Canada. There was some debate on the suggestion of the committee that an arbitrary level of 50 mg. of alcohol in 100 ml. of blood should be fixed as the highest that could be accepted as consistent with the safety of other road users. However, in defending the report, Professor Wayne said that it was simply a review of scientific evidence. They were merely drawing attention to the fact that the 50 mg. per 100 ml. level which could be reached by taking three or four glasses of sherry quickly on an empty stomach rendered the driver a little less capable of driving his car with absolute care.

Sir George Pickering, Regius Professor of Physic in the University of Oxford, was nominated President of the British Medical Association for 1963-64.

The Minister of Health was keenly criticized for his continued refusal to make National Health Service drugs available free to private patients.

The Public Relations Department of the B.M.A. was reorganized. Mr. Paul Vaughan was appointed chief press officer, and it was recommended that the Public Relations Committee be dissolved and that the Public Relations Department become an integral part of the Secretariat.

Sir Zachary Cope and Dr. Angus Macrae were recommended to the Representative Body for election as Vice-Presidents of the Association.

A new prize, to be known as the C. H. Milburn Prize, is to be awarded annually for the best essay or study on the subject of medical jurisprudence and forensic medicine.

LETTERS TO THE EDITOR

DEFORMITY IN RHEUMATOID ARTHRITIS

To the Editor:

In a recent issue (*Canad. M. A. J.*, 81: 827, 1959) there appeared a paper by Dr. Michael Kelly on "The Correction and Prevention of Deformity in Rheumatoid Arthritis; Active Immobilization". Although the article contains valuable information on a very important subject, I believe it also contains several statements that might be questioned.

I wish to quote some of these statements, and submit comments on each of them. The italics throughout are mine. Referring to the rheumatoid arthritic patient, the author wrote:

1. (a) "*Rest in bed is disastrous* to joints, bones and muscles. Muscles become wasted, bones decalcified, and joint capsules fibrosed. The feet will lose shape if they do not bear weight, . . ." (b) "He should never be sent to hospital merely for rest, and he should be kept out of bed if possible. If he has to go to bed for another purpose he should keep his knees extended and as soon as possible he should get out of bed and walk."

Comment: I believe most doctors consider that periodic rest in bed is valuable in the general (systemic) treatment of even the moderately severe rheumatoid arthritic patient. But at the same time the affected joints should be given *local* rest, which can be accomplished only by splinting. This allows for relaxation of the protective muscle spasm. Thus, combined with local heat (massage), and gentle tension exercises, the joint tissues are kept in relatively good condition and prepared for subsequent weight-bearing. To force a patient to walk without this preliminary preparation is to invite more strain and more damage to the affected joints, especially the feet and knees. The secret of successful treatment of these joints is a careful *balance* between rest in splints (intermittent immobilization) and carefully graded exercises.

2. The article stated: (a) "More pain is felt in arthritic hands than in any other joint, and in the majority of cases the *pain comes from the wrists.* Most of the swelling may be on the dorsum of the hand, and the fingers may straighten and droop." (b) "Usually the swelling of the hand is due to a local cause—*arthritis of the wrist.*" (c) "The painful hand may be diffusely tender to palpation, but acute tenderness will usually be confined to the volar surface of the wrist."

Comment: In rheumatoid arthritis the joints involved earliest and most frequently, apart from the feet, are those in the hands and fingers, especially the proximal interphalangeal and the metacarpo-phalangeal joints. Each affected joint is the site of an inflammatory process involving primarily the synoviæ and adjacent soft tissues, and later, cartilage and bone. All this causes *local* swelling and pain, resulting in protective muscle spasm, with the fingers usually tending to flexion deformity; and the hand tending to ulnar deviation. *Hyperextension* deformity of the fingers is much less common.

3. Further statements included these: (a) "Irreparable harm may be done by allowing a painful wrist to droop in pronation for a few weeks." (b) "As soon as the wrist has been fixed [in a wrist cast], the pain in the fingers is much reduced. It usually disappears within 12 hours, and the patient can use his hand, . . . and the *elbow* and *shoulder* usually improve." (c) "Ankylosis of the wrist never follows unless the cartilage has disappeared . . . ." (d) "The same method may be used for acute attacks in the metacarpo-phalangeal or interphalangeal joints. But the wrist is more important, because it is a *focus* or springboard from which *arthritis spreads* to involve other joints. If polyarthritis is *aborted in the wrist*, it often leads to a *complete remission of the disease.*"

Comment: In rheumatoid arthritis permanent deformity of the wrist takes many months (or years) to develop, rather than a few weeks. Splinting of the wrist itself can quickly relieve pain in the wrist, but it is difficult to understand how this could affect the local conditions in the fingers, let alone the more distant elbows and shoulders! *Fibrous ankylosis* of the wrist (and other joints) can, and does, occur without apparent cartilage destruction. Rheumatoid arthritis is a systemic disease, with multiple joint involvement, but it seems questionable that any joint acts as a "focus" for a spread to other joints. Complete remission of the disease following its abortion in the wrist surely must be most unusual. In over 25 years' experience (and always having made splints for the affected joints), I have never observed this. The author greatly emphasizes the importance of the wrists, but for practical functional purposes they must rate far behind the fingers, thumbs, hands, elbows and shoulders. An ankylosed wrist *per se*, unless grossly deformed, causes relatively little disability to most patients, as compared with the other joints in the upper extremity.

The splints and supports shown in Figs. 2 and 3 would be quite satisfactory for the wrists, but *not* for the metacarpo-phalangeal or finger joints which are involved in most rheumatoid arthritic patients. The ventral splints should continue to the finger-tips, holding the hand in a slightly cock-up position, with an edge along the outer side of the splint. This type of splint will tend to prevent, or overcome, flexion deformities and ulnar deviation, by relieving the pain and protective muscle spasm.

For the knees, full cylindrical splints as shown in Fig. 5a are seldom required except in very acute cases.

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They should be bi-valved as soon as possible, and later replaced by posterior moulded, padded splints.

All these splints for hands and knees may be secured with bandages, tapes or straps; need be worn only for a few hours at a time, day and night; or in other words, intermittent immobilization. In the intervals, other types of treatment may be carried out as required, e.g. heat, massage, gentle exercises, etc., to increase the muscle tone, and range of movement.*

In an editorial, in the same issue of the Journal, Dr. Swanson discusses some of these latter items; and once again points out the value of "DuraFoam" in making splints. This material does have many features to recommend it, especially in institutions where it is used frequently by trained technicians. However, in actual practice, for the occasional patient, I believe that plaster and/or aluminum splints are quite satisfactory and have many advantages, if made and used properly.

I quite agree with the editorial in congratulating Dr. Kelly on presenting this very important and very neglected subject, viz. the use of local splinting in the prevention and correction of deformities in rheumatoid arthritic patients. It seems strange that such a basically sound method of local joint treatment is taking so long to be accepted by our profession, particularly since the same principle applies to *all types* of arthritis (including osteo-arthritis); and for the neck and back as well as the extremities. Articles of this nature I believe are a definite contribution in focusing attention on this matter, even though one may have minor disagreements as to the theory and technique.

West Block, DOUGLAS TAYLOR, M.D.
Medical Arts Building,
Toronto, Ontario,
January 8, 1960.

To the Editor:

I thank Dr. Taylor and Dr. Swanson[1] for their remarks on a subject for which their names are already well known in Australia. We are agreed on principles, and our differences are chiefly on minor details; I have tried to supply some of these in my monograph;[2] and I have shown in Melbourne a 16 mm. film. It is truly remarkable that so important a subject should be universally neglected.

I believe that one reason for the neglect is that most doctors find it difficult to get their patients on their feet again who have once been put to bed. The knee joints become painless but the quadriceps muscles waste away. For the knees I forbid all active or passive movements except quadriceps drill. In my experience, nearly every arthritic patient who has become bedridden has been put to bed either for a medical or surgical illness or through mistaken kindness. For several years I have never put a patient to bed with arthritic knees, and when I have found one in bed I have immediately ordered him up—with straight knees. That is what I mean by active immobilization—active limb but immobile joint.

For several years I splinted fingers and wrists at the same time (see Fig. 29 of monograph) and was not satisfied. When I left the fingers free and told the patient to do her housework, the results began to improve. I am discussing the extreme pain in the hand which so frequently disables a patient. This is usually worse at night. It nearly always comes from the wrist and the relief from splinting it is magical. For the late deformities of the fingers I have found immobilization less useful; it is remarkable what good function can be preserved so long as the wrists have not been allowed to droop.

I used to believe that polyarthritis had an inevitably progressive course. But I have seen so many patients go into remission with active immobilization (plus or minus phenylbutazone) that I have changed my views.

Institute of Rheumatology, MICHAEL KELLY, M.D.
410 Albert Street,
East Melbourne,
Victoria, Australia,
January 20, 1960.

REFERENCES

1. SWANSON, J. N.: *Canad. M. A. J.*, 81: 843, 1959.
2. KELLY, M.: Prevention and treatment of polyarthritis by continuous and active immobilization of joints, Documenta Rheumatologica, Basle, 1959.

*This subject, the making and use of splints, was discussed in some detail in my Letter to the Editor, *Canad. M. A. J.*, 80: 147, 1959.

NEW TREATMENT FOR BILATERAL LEGG-CALVE-PERTHES DISEASE

To the Editor:

The Taylor walking caliper has made the treatment of unilateral Legg-Calvé-Perthes disease in children a more bearable illness compared with the days of bed splints, casts, and other means of combined body and limb immobilization. On the average the unilateral brace is required from 2½ to 3 years. As long as the brace is worn properly, there is no pressure on the femoral head and the joint space is maintained. The child is able to attend school and has at least limited activity.

Until the present time the treatment generally accepted for bilateral disease has been bed rest and/or wheel chair during the day until one side heals and then the use of a unilateral walking brace. However, during the time of active bilateral capital necrosis the patient is out of school and out of contact with most of his fellows. Without a splint or cast it is usually impossible to keep these children from occasionally getting up on their knees if not standing up. This puts pressure on the femoral heads. Most mothers find it a difficult task to keep a child in bed for even four days if he is not feeling acutely ill, so one can easily understand the problem the mother has with this long-drawn-out disability when the child usually feels extremely well.

We have designed a bilateral walking splint which allows the patient to be mobile with the use of crutches during the time of healing on the advanced side. Two short Taylor braces are used and are held stable by a circular steel supported belt. Weight is carried on both ischial tuberosities, and the thighs, legs and feet are fitted with straps and boots as in the single unit. The distal ends of the braces are free and are not connected, thereby allowing a certain amount of independent play in each leg. This aids in the balance and allows the child to develop a walk by hip swinging with the use of crutches.

Our patient with bilateral disease was first diagnosed in September of 1957 and was put to bed for one month. During this time he became very restless, resentful, and irritable, and almost refused to stay in positions of sitting or lying. The mother finally gave up all hope of keeping him in bed or in a wheel chair. It was at this time that the whole problem came up for review and it was decided that it would be worth an attempt to try to make the child semi-mobile by some sort of bracing. The first brace was designed from fairly heavy steel with the two leg braces joined together in the region of the ankle but this proved unwieldy and the child even with the use of crutches found it very difficult to move at all. However, when lighter steel was used and the two leg braces were not joined together, the patient found it quite easy to manipulate, and as weight was carried by the two ischial tuberosity weight-bearing straps, we felt that there was no danger of pressure on the femoral heads. He wore the bilateral brace from November 1957 until August 1959 and during this time was followed by serial radiography. It was felt that the rate of healing compared favourably with the rate of healing in a child who would be more or less confined to bed or wheel chair. The child was much happier during this time and was able to attend school sitting on a specially constructed bicycle-seat type of stool. He was able to walk around the house and classroom and as his dexterity improved he could walk outside on irregular surfaces. He eventually was able to walk without crutches. Most of his falls were in a forward direction, for which he could brace himself very easily with his arms and hands, and rarely did he fall backward in such a way as to be unable to protect himself. He has worn a unilateral brace from August 1959 until the present time.

A review of bilateral Legg-Calvé-Perthes disease is under preparation and a complete list of serial radiographs on this particular patient is being prepared.

J. B. J. MCKENDRY, B.A., M.D.,
ALLAN CARRIE, M.D., F.R.C.S.,
and A. E. FOSTER

3 Jackson Avenue,
Toronto 18, Ont.,
January 13, 1960.

EFFECTS OF ALCOHOL ON SIAMESE TWINS

To the Editor:

Though possibly of general interest to physicians, the finding reported here is submitted for publication because of its medico-legal interest, from the standpoint of chemical tests of alcoholic intoxication.

It is a well-established fact that, in general, the degree of intoxication parallels the concentration of the alcohol in the blood. As may be seen throughout the literature on alcohol, however, frequently overlooked is that this is a statistical conclusion and, therefore, being a statistical conclusion, it may or may not, and need not necessarily, apply to the individual. It is failure to recognize this fact that accounts for the frequent assertion in the literature and in courts of law that, in all persons, the mental faculties are impaired at a concentration of one part of alcohol per thousand parts of blood.

Also, the effects of alcohol may be different not only in different individuals at the same level of alcohol in the blood, but at different times in the same person. Examples are the cases where intoxication was noted with as little as 0.02% alcohol in the blood, but, also, no intoxication with concentrations as high as 0.2% and still higher (see Rabinowitch, I. M., *J. Crim. Law & Crim.*, 39: 225, 1948; *Canad. Bar Rev.*, 26: 1437, 1948; *obiter dicta*, 29: 15, 1955; *Canad. Serv. M. J.*, 11: 844, 1955.)

Recently, it occurred to the writer that it would be of interest to know the effects of alcohol in double monsters (Siamese twins) who had in common one of the large blood vessels or, still better, were united through the liver, so that alcohol ingested by one of the twins reached the general circulation of both at, or approximately at, the same time. Under such conditions, if one only of the twins had consumed alcohol, were both always equally affected by it, or were there times when one was intoxicated while the other was not? The probability, however, of meeting with a suitable case in the literature appeared extremely remote, first, because of the rarity of double monsters and, still more rare, those who had reached adult life. Also, the union of the twins would have to be, as stated, more than superficial, that is, more than by skin and bone. Then with such union, as it was extremely unlikely that there were blood tests or other chemical tests, the conclusions would have to be based entirely upon the clinical picture. Therefore, the conditions would have to be such that one of the twins had consumed such an amount of alcohol that he was *definitely drunk* and, at the same time, the other twin had had no alcohol at all. Contrary to all expectation, however, one such case was discovered, and, in fact, it turned out to be the original "Siamese twins"—Chang and Eng.

In *Anomalies and Curiosities of Medicine* by Gould and Pyle (Rebman, 1897), in the description of these twins, it is stated, "There was an hepatic connection through the band," which united the twins, and also that "there was slight vascular intercommunication of the livers", though independence of the two peritoneal cavities and the intestines. Relevant here, therefore, was also the observation that one of the twins, Chang, was "quite intemperate". No other details were given. Fortunately, however, quite a complete description of the whole case, including autopsy findings and post-mortem experimental injection into the liver, was reported in the *Philadelphia Medical Times* (4: 321, 1874) and the following are to be noted:

The twins were born in 1811 and died in 1874, and thus reached the age of 63. Both had married and between them had had 11 children—Chang six and Eng five. The connecting band (at the ensiform) was four inches long and eight inches in circumference; but, during the whole of their lives, the anatomical details of the union were a mystery to the many eminent physicians, surgeons, anatomists and physiologists who had examined them (see also *M. Times Gaz.*, 1: 100, 186 and 293, 1874). The consensus, however, was that there was some connection between vital organs, and that any attempt at separation would prove fatal.

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Each died within one-half hour of the other, but the wives, and particularly the children, were adverse to a post-mortem examination's being made. As a precautionary measure, however, in the hope that they would consent, the bodies were thoroughly cooled by the attending physician and placed in a coffin. The coffin was then put into a wooden box, which, in turn, was placed in a tin container, the openings of which were soldered. As a further precaution, to delay decomposition, the whole was buried in a dry cellar in such a manner that the tin box was completely imbedded in charcoal. For a number of reasons, irrelevant here, further examination was delayed until Feburary 1, that is, 15 days post mortem; but when the bodies were exposed "it was an agreeable surprise that no odour of decomposition escaped in the room, and that the features gave no evidence of impending decay. On the contrary, the face of Eng was that of one sleeping; and the only unfavourable appearance in Chang was a slight lividity of the lips and a purplish discoloration about the ears." The relevance of this degree of preservation will be noted later; but, again, for reasons irrelevant here, there was delay. As a further precaution, therefore, the bodies were embalmed with a zinc chloride solution injected into one of the iliac arteries.

At the anatomical dissection, the bodies were found in a satisfactory condition, "except the right lower extremity of Chang, which required immediate care to prevent further destructive changes taking place".

The findings relevant here were (a) the hepatic connection through the band, (b) some interlacing diaphragmatic fibres, and (c) slight vascular communications of the liver. To determine the extent to which the livers were united, a "plaster injection, coloured by ultramarine", was injected "into a tributary of the portal vein of Chang" and this, it was found, "passed freely into the liver of Eng, as well as into some of the mesenteric veins proper". In *Anomalies and Curiosities of Medicine* and also in the *Philadelphia Medical Times* are diagrammatic representations of the band and also of the livers, with arrows showing the direction in which the injection passed from Chang to Eng.

Unlike aqueous solutions, alcohol diffuses rapidly through all animal tissues (see above, *J. Crim. Law & Crim.*). In fact, in normal persons, as much as 20% of the ingested alcohol, instead of being first absorbed from the gastro-intestinal tract by the liver, may pass directly through the stomach wall and thus reach the general circulation. Such amounts, however, would be a contributing factor only, and a relatively small one, in entry of the ingested alcohol, in the case of double monsters, from the twin who had consumed the alcohol into the one who had abstained. Such possible diffusion is, therefore, for the purpose here ignored. Of interest here is the free passage of the injected solution from one liver into the other. Post-mortem decomposition of the livers in such a case could well account for "free passage of the injected fluid from one liver into the other". Here, however, this seems to be reasonably well excluded by the satisfactory condition of the bodies at the time of the injection, though undoubtedly there must have been some post-mortem changes. It is hardly likely that the eminent physicians, surgeons, anatomists and physiologists who were present at this injection would have failed to appreciate the significance of post-mortem decomposition of the livers had it been present. And, with regard to the latter, it should be noted also that this was an aqueous solution and, as noted, ethyl alcohol diffuses much more rapidly through animal tissues than do aqueous solutions. Of interest, therefore, is the observation, in the details of the lives of these twins, that Chang not only drank to excess, but was frequently "drunk", but that, despite this, Eng never felt the effects of the drunkenness—"Chang drank pretty heavily; at times getting drunk; but Eng never felt any influence from the debauch of his brother."

Mere consumption of alcohol by one of the twins only would be of little or no significance, because, if consumed in small quantities, the concentration of alcohol in the blood might not be sufficient to produce clinical signs of intoxication. Also, had the union of these twins been by skin or bone alone, or even by muscle, an appreciable lag between the appearance of the ingested alcohol in the blood of Eng and that of Chang might have occurred. This could very well account for different effects, due to adaptation of the brain to alcohol when slowly absorbed; but, here, since the injected solution passed freely from the liver of Chang into that of Eng, there could hardly have been very much difference between the rate at which the alcohol had increased in the blood of Chang and the rate at which it had increased in Eng. And here, also, was not a case of a single drink of a small amount of alcohol, but repeated consumption of such large amounts that they produced drunkenness. To no lag, therefore, can reasonably be attributed the fact that, though Chang was clinically drunk, Eng, at the same time, was clinically sober.

Because of the free passage of the injected solution from the liver of one of the twins into that of the other, here is not evidence of different effects of the same amount of alcohol in different persons. Furthermore, such a finding would not be of any particular interest, for it is a well-recognized phenomenon. Of interest, medico-legally, is that, because of the free passage of the injected solution—and presumably alcohol would have passed still more freely, because of its much more rapid diffusion through animal tissues—here, *as far as alcohol is concerned,* it is not unreasonable to regard these twins as one person. Here, therefore, is unique evidence of *different effects of the same amount of alcohol* in the *same person.*

I. M. RABINOWITCH, M.D.

P.O. Box No. 9,
Val David, Que.,
February 2, 1960.

AN INVITATION TO OTOLARYNGOLOGISTS

To the Editor:

This is to notify you that the Summer Meeting of the Sections of Otology and Laryngology of the Royal Society of Medicine will take place in Oxford on the mornings of Friday and Saturday, July 15 and 16, in the Department of Physiology of this University.

The meetings will be preceded by a Presidents' reception in Oriel College on the evening of Thursday, July 14. Any Canadian otolaryngologists who happen

to be in this country at that time will be welcome at the meeting, but it would facilitate arrangements if they kindly communicated ahead of time with Mr. William McKenzie, F.R.C.S., the Honorary Secretary of the Section of Otology, the Royal Society of Medicine, 1 Wimpole Street, London, W.1.

R. G. MACBETH,
President, Section of Otology,
Royal Society of Medicine.

Department of Otolaryngology,
The Radcliffe Infirmary,
Oxford, England,
January 25, 1960.

PUCK ANEURYSM

To the Editor:

The report "Puck Aneurysm" (*Canad. M. A. J.*, 81: 922, 1959) brings to mind a comparable episode which was reported in the *British Medical Journal* (2: 895, 1958).

In this latter instance the patient, having been struck in the temple by a "hockey ball," sustained a non-penetrating wound as a result of which he developed a false aneurysm of the superficial temporal artery. It is of interest to note that this patient was struck in the left temple, as were the patients described by Dr. Campbell and his associates. One wonders whether this is mere coincidence, or whether there might be some relationship to the handedness of the competitors, to the extent that it affects their posture while facing their opponents.

GEORGE X. TRIMBLE, M.D.,
Director of Medical Education.

Seaside Memorial Hospital of Long Beach,
Long Beach, California,
January 26, 1960.

THE LONDON LETTER

(From our own correspondent)

THE DRUNKEN DRIVER

At long last the controversy over the legal enforcement of measurement of blood alcohol levels as a means of assessing whether or not a car driver is under the influence of alcohol has come to a head. Almost simultaneously the British Medical Association has published a report on the subject, and a Member of Parliament has introduced a Bill dealing with it. According to the B.M.A. report, "a concentration of 50 mg. of alcohol in 100 ml. of blood while driving a motor vehicle is the highest that can be accepted as entirely consistent with the safety of other road users". Further, the committee which prepared the report "cannot conceive of any circumstances in which it could be considered safe for a person to drive a motor vehicle on the public roads with an amount of alcohol in the blood greater than 150 mg./100 ml." It is this latter figure that has been adopted in the Bill now before Parliament. This proposes that a police constable in uniform shall be able to arrest without warrant any person who he has reasonable cause to believe has "0.15 per cent, or more by weight of alcohol in his blood" when he is using, or attempting to use, or when in charge of, a vehicle on a road or other public place. Such a person would then be compelled to submit to an estimation of his blood alcohol. Motorists have noted with interest that the same penalties apply to an unaccompanied pedestrian "on a carriageway". The draughting of the Bill in its present form is far from satisfactory but, if this can be improved, there is little doubt that the intentions of the Bill will receive general approbation.

DRUG ADDICTION

"Any drug or pharmaceutical preparation which has an action on the central nervous system and is liable to produce physical or psychological deterioration should be confined to supply on prescription", and an independent expert body should be set up which will be responsible for advising which substances should be so controlled. These are two of the major recommendations of an interim report of the interdepartmental committee on drug addiction, which has just been published. They represent two measures which the medical and pharmaceutical professions have been demanding for years, but which hitherto those in authority have treated with haughty disdain. Time alone will tell whether this latest move will persuade the bureaucrats to put the public weal before departmental convenience.

The greater part of the report deals with the problem of addiction to anæsthetic gases—a problem referred to the committee following a case in the Courts last year when a consultant anæsthetist, who had been addicted to anæsthetic gases, was found guilty of manslaughter as the result of the death of a patient to whom he was administering the anæsthetic. The committee accepts the view that, with the apparatus at present in use, the preliminary sniffing of the gases immediately before administering them is essential. The number of addicts to anæsthetic gases in this country is low: only 20 cases have been reported during the past 11 years, but during this period these persons have been responsible for endangering the lives of patients on two occasions. In the committee's opinion, the responsibility for dealing with this irregularity rests in the first instance with the anæsthetist's professional colleagues, and it is for the surgeon to take immediate action if an anæsthetist appears to be incapable of carrying out his duties. It is also recommended that an anæsthetist who is found to be an addict to anæsthetic gases should forthwith be prevented from continuing his specialist practice.

AMATEUR BOXING

The current controversy on the pros and cons of amateur boxing has been carried a stage further by the publication by the London Amateur Boxing Association of a booklet entitled "Medical Aspects of Amateur Boxing". This shows that since the introduction by the Association, in 1953, of its medical welfare scheme there has been no death among amateur boxers in the London area. In the 1956-57 season, when there were over 4000 contests, there were no skull fractures, and injuries elsewhere in the body were few: two

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fractures of the hands, one of the thumb, two of the nose, and 57 cuts. As is pointed out in the introductory chapter, "despite the fact that thousands of amateur contests take place every year in Great Britain, there are very few cases of serious injury—far fewer, proportionately, than in rugby or Association football, or in athletics".

WHAT'S IN A NAME?

Tradition has its disadvantages, particularly when an ancient institution decides to modernize itself. The projected move of the Royal College of Physicians of London from Pall Mall to Regent's Park has involved the College in the preparation of a Private Bill for presentation to Parliament. This is necessary to allow it to hold its meetings outside Westminster, and to remove the present limitation which only allows the College to hold lands of an annual value not exceeding £1000 a year. Yet another clause in the Bill regularizes the use of the title by which the College has been known for many years. In the original charter granted in 1518 by Henry VIII the College is described as "The President and College or Commonalty of the Faculty of Physic in London", and this is the title still used in the College's legal documents.

WILLIAM A. R. THOMSON

London, February 1960.

OBITUARIES

DR. JOHN D. CAMPBELL, 74, died at the Kingston General Hospital, Ontario, on December 22 after a short illness. Born in Arnprior, Ont., he received his medical education at McGill University and graduated in 1908. For the next 10 years Dr. Campbell practised in Lansdowne, Ont., and then moved to Kingston about 35 years ago.

His widow and a daughter survive him.

DR. HUGH G. DENTITH, 26, died suddenly in his Montreal home on December 29. A native of Montreal, he graduated from McGill University in 1958 and interned at the Royal Victoria Hospital. At the time of his death Dr. Dentith was on the resident staff in surgery at the Montreal General Hospital. During his student days he served with the University Naval Training Division. He attained the rank of Surgeon-Lieutenant in the RCN and was on the Navy's active reserve list.

Dr. Dentith is survived by his widow.

DR. JOSEPH A. DONAHOE, 52, died in the Victoria General Hospital, Halifax, on December 26 after a brief illness. He was born in Roseneath, P.E.I., and went to Dalhousie University, where he obtained his medical degree in 1939. After interning at the Halifax Infirmary and the Victoria General Hospital, Dr. Donahoe practised for a year at Barrington Pass, N.S., and for a further two years at Shelburne. For the past 16 years he had been in Truro.

Dr. Donahoe is survived by his widow, two daughters and four sons.

DR. HUGH C. KNOX, 49, died suddenly at his home in St. Thomas, Ont., on Christmas Eve. Born in Pembroke, Ont., he graduated in medicine in 1939 from the University of Western Ontario. For a year he interned at the Victoria Hospital, London, and then went to the Montreal Children's Hospital before joining the RCAMC in World War II. As a medical officer attached to the RAMC, Dr. Knox saw service in West Africa, North Africa and Europe. After his discharge from the Army, he joined the staff of the Westminster Hospital, London, Ont., and practised there as medical officer and psychiatrist for 2½ years before moving to St. Thomas.

Dr. Knox is survived by his widow.

DR. A. E. McGREGOR, 57, died on December 6 in the Royal Alexandra Hospital, Edmonton, after a week's illness. A native of Fleming, Sask., he studied at the University of Manitoba and received his medical degree in 1928. After graduation he spent two years doing postgraduate work in England and Scotland. In addition to his private practice, Dr. McGregor had been medical officer of the Sherrit Gordon Mines since 1936. He had lived at Sherridon and God's Lake, Man., before moving to Fort Saskatchewan, Alta., seven years ago.

Dr. McGregor is survived by his widow, two daughters and a son.

DR. FRANK HENRY MAYHOOD, who died in Shaughnessy Hospital, Vancouver, on January 9, was medical officer at Shaughnessy Hospital from 1933 to 1944, and had a long and distinguished military and medical career. He commanded the 8th Field Ambulance from Calgary during the First World War. Dr. Mayhood was a member of the Canadian Pensions Tribunal, and practised in Vancouver for a few years—being appointed to the medical staff of Shaughnessy Hospital, where he worked till 1944. He then went to Bowen Island to practise, retiring in 1958.

He was born in Napanee, Ont., and was 80 years old when he died. J. H. MACD.

PROVINCIAL NEWS

QUEBEC

Plans for the next Annual Meeting of the C.M.A. Quebec Division to be held at the Château Frontenac in Quebec City on May 5, 6 and 7 are now complete except for some minor details. The emphasis this year will be on medical economics and it will be a fully bilingual program, with simultaneous translation service for those who wish to make use of it. It is interesting in this regard that Premier Barrette has recently announced the intention to establish a hospital insurance plan in this province. Both the English- and French-speaking members of our profession have offered to co-operate with the government in every possible way in the implementation of such a plan.

I believe it is correct to advise that our divisional membership has now reached the 2000 mark. Also, reorganization of Districts in our Division is going

ahead apace. The first organizational meeting was held on January 8 in Sherbrooke with Dr. Silvio LeBlond, president, Dr. D. G. Kinnear, secretary, and Mr. Jean-Marc Denault, executive secretary, participating with the local group. The second formal meeting was held in the new District No. 3 of Sherbrooke on January 30. The latest District that has been accepted into our Society is the Medical Society of Chambly, to be District No. 20 with about 75 doctors.

In view of the expanding activities of our Division, it is becoming very obvious that there is a great need for the Canadian Medical Protective Association to issue their brochure in French as well as in English. It is sincerely hoped that this will be done in the not too distant future.

Just about all the French and English hospitals in Montreal have announced considerable increases in per diem rates. This has led to a great deal of public discussion about this problem, including somewhat critical editorials in the daily press. Hospital administrators claim that the situation has been brought about principally by substantial salary increases granted to nurses during the past year, plus unexpected costs which seem to occur every year. This certainly seems to lead to a riper situation for government to intercede in one way or another.

The outstanding event of January was the 29th Annual Meeting of the Royal College of Physicians and Surgeons, held on January 21 to 23 at the Queen Elizabeth Hotel in Montreal. More than 1000 Fellows of the College participated in an excellent program.

A regular meeting of the Montreal Medico-Chirurgical Society was held on January 18 at the Montreal General Hospital. The meeting began at 6.30 p.m. with an excellent buffet supper, courtesy of the hospital. Following this Dr. H. Rocke Robertson, professor of surgery at McGill University, spoke on "Some aspects of functioning endocrine tumours". This was a review of personal experience and of some of the reported series of several of the functioning tumours that occur in man. The emphasis was on islet cell tumours of the pancreas, the argentophilic cells of the gut, and of the adrenal medulla and adrenal cortex tumours. He emphasized symptoms that should arouse the suspicion of the physician and stressed the importance of early diagnosis in these tumours. Failure to do this can at times lead to tragic consequences. Of particular value to those in attendance was the outline of specific diagnostic procedures best employed in each type of tumour, together with the surgical approach. Well over 200 attended this excellent presentation.

The first annual lecture in memory of Dr. Léon Gérin-Lajoie at the Notre-Dame Hospital in Montreal was presented on January 20 at 8.30 p.m. by Dr. Newell W. Philpott, professor emeritus of gynæcology and obstetrics at McGill University. He spoke on "Observations concerning uterine cancer". It is a delight to record this establishment of the Memorial Lectureship so soon after the untimely passing of Dr. Gérin-Lajoie, a demonstration of the high esteem in which he was held by his associates.

The McGill University Faculty of Medicine has announced promotions to full professorship of two outstanding staff members. Dr. Eleanor Hill Venning has been promoted from associate to full professor in experimental medicine. She is an established international expert on hormones, particularly the steroids, and, no doubt, known to most if not all of our colleagues. Dr. F. Clarke Fraser has been promoted from associate to full professor of genetics. He started his teaching career at McGill in 1948 as lecturer in genetics and his main field of research since then has been in the genetic aspects of epilepsy. The clinical side of this investigation has been carried out at the Montreal Children's Hospital where Dr. Fraser holds the post of director of medical genetics.

Promotions have also been announced in the Department of Surgery of the Royal Victoria Hospital. Promoted to associate surgeons are Drs. J. R. McCorriston, J. C. Luke, H. S. Morton and F. H. Moseley; to assistant surgeons, Drs. M. A. Entin and A. R. C. Dobell; and to clinical assistants, Drs. T. W. Lin and M. J. Belliveau.

The latest Lyman Duff Memorial Lecture in the Faculty of Medicine at McGill University was given by Dr. Aura E. Severinghaus, associate dean of the Columbia University College of Physicians and Surgeons. On December 14 Dr. Severinghaus spoke on "The Educated Physician" in which he dealt with the role of a liberal arts education as preparation for a career in medicine. This lecture series was initiated by the McGill medical students and is presented by the McGill Medical Undergraduate Society in memory of the late dean of the medical faculty.

Dr. J. Paul Laplante has taken over as director of St. Luke Hospital in Montreal, having succeeded Dr. J. H. Roy on January 1. Dr. Laplante had been medical director of the Ottawa General Hospital since 1955.

The new slate of officers of La Société Médicale de Montréal was recently announced. Dr. Albert Royer is the new president. He is associate professor of pædiatrics at the University of Montreal and chief of the teaching department of pædiatrics at Ste-Justine Hospital. Dr. Gérard Morin was elected vice-president; Dr. Jacques Gélinas, second vice-president; Dr. Jean Paul Legault, councillor; Dr. Georges Leclerc, secretary; Dr. Pierre A. Turgeon, treasurer; and Dr. Gilles Leduc, assistant secretary.

A. H. NEUFELD

ONTARIO

Dr. R. J. Nodwell has been appointed Medical Director of the Toronto Western Hospital. Dr. Nodwell was born at Hillsburgh, Ontario, and graduated from the Faculty of Medicine of the University of Toronto in 1932. He worked in British Columbia and later served in the permanent force of the R.C.A.M.C. At the end of World War II, he was appointed commanding officer of Toronto Military Hospital at Chorley Park and in 1948 was acting command medical officer for the Central Command. After later service in British Columbia and in Washington as medical liaison officer, he returned to Canada in 1953 as Deputy Director General of Medical Services for the Canadian Army.

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ABSTRACTS *from current literature*

MEDICINE

Obstructive Emphysema in Cigarette Smokers.

A. L. FLICK AND R. R. PATON: *A.M.A. Arch. Int. Med.*, 104: 518, 1959.

A series of 222 male patients of a Veterans Administration Hospital was examined with regard to maximum expiratory flow rates (MEF), and a detailed history regarding smoking habits and lower respiratory symptoms was obtained. A relationship between expiratory obstruction and smoking was found and the authors believe that the smoking initiates changes in the epithelium of bronchi, with loss of cilia, and leads to bronchitis and to terminal bronchiolitis. This in turn leads to alveolar obstruction, distension and rupture, with loss of elasticity, fibrosis, and alveolar and bronchiolar infection, resulting eventually in advanced emphysema. W. GROBIN

Adult Endocardial Fibroelastosis Mimicking Mitral Stenosis.

J. B. HUDSON *et al.*: *Ann. Int. Med.*, 51: 151, 1959.

There exist in the literature few reports of adults with that overgrowth of endocardial elastic and fibrous tissue characteristic of endocardial fibroelastosis in children. The case here reported is one of a young man in whom this diagnosis appears to have been established. The clinical findings resembled to a remarkable degree those of mitral stenosis.

The patient was first seen at the age of 20 years, with a family history of hypertension and rheumatic fever, no symptoms, but a second pulmonic sound slightly louder than the second aortic sound. Six months later the patient developed atrial fibrillation and subsequently experienced two episodes of peripheral embolism. Eighteen months later he began to exhibit symptoms of congestive heart failure. Slightly more than three years after the original consultation, he had definite cardiac enlargement with a marked degree of left atrial and left ventricular hypertrophy and elevated pulmonary arterial and pulmonary capillary pressures shown by right heart catheterization. Although the characteristic murmur of mitral stenosis was not heard, a diagnosis of rheumatic heart disease with mitral stenosis was made and surgical correction arranged; at operation, the valve was found normal despite the fact that the pressure in the dilated left atrium was significantly elevated.

About nine months later the patient was readmitted—again in atrial fibrillation and with severe congestive heart failure. In the second week af his stay in hospital, he developed vomiting, abdominal tenderness on pressure and bloody diarrhœa, thought to be the result of mesenteric embolism. The patient died during the administration of an anæsthetic, and necropsy demonstrated that the cause of death had been peritonitis resulting from a perforated appendix. The heart weighed 690 g. The right atrium and right ventricle showed marked hypertrophy and dilatation. The left atrium was moderately dilated. The left ventricle was relatively small. The valve cusps were not remarkable, but the left atrial and left ventricular endocardium were smooth, white and grossly thickened, owing to proliferation of fibrous and elastic tissue. In the left ventricular subendocardium a considerable degree of fibrosis was noted but in regions further removed from the endocardium, muscular involvement was slight.

It is suggested that, in this case, the relative importance of valvular obstruction was less than that of impairment of left ventricular filling by the endocardial thickening. The development of the many confusing clinical findings was influenced by this unusual mechanism. S. J. SHANE

Liver in Ulcerative Colitis. The Significance of Raised Serum-Alkaline-Phosphatase Levels.

R. W. BODEN *et al.*: *Lancet*, 2: 245, 1959.

Fatty infiltration of the liver is known to be common in ulcerative colitis but other hepatic complications are less well known and there is less unanimity about their nature and prevalence. Reviewing 190 cases of ulcerative colitis, the authors found 11 with serum alkaline phosphatase levels above 50 King-Armstrong (K.A.) units per 100 ml. In seven of these patients the diagnosis of pericholangitis was made on hepatic biopsy. Except for anæmia, due to chronic blood loss in two cases and arthritis in one case, all seven patients had mild ulcerative colitis. All patients had persistent hepatomegaly and four had an enlarged spleen. Drug hepatitis and serum or transfusion hepatitis have been excluded in these cases and, although infectious hepatitis could not be completely ruled out, it was not likely.

In view of the serious consequences of pericholangitis, every effort should be made to reverse this process, and the authors discuss the possibility that bacteræmia may be responsible for the development of liver disease in these cases. Liver function tests should be carried out on patients suffering from ulcerative colitis; conversely, in patients presenting with a clinical picture suggesting pericholangitis, ulcerative colitis should be sought. The question is raised whether more active treatment of the ulcerative colitis might prevent the development of liver disease. G. GROBIN

Tuberculosis in Medical Students.

J. R. KARNS: *Am. Rev. Tuberc.*, 79: 746, 1959.

A tuberculosis control program has been in operation at a large American medical school since 1934. In this 23-year period, 2302 students have been adequately studied while in school. During this period the number of students giving a positive tuberculin reaction at matriculation and graduation has diminished greatly, the lowest number of reactors occurring since 1950. This indicates that there is less risk of tuberculous infection in medical school now than in previous years.

Seventeen cases of clinically significant tuberculosis developed in the students while in school; 16 of them before June 1950, and only one between 1950 and 1957. This recent low morbidity has come about without the use of BCG vaccination. It appears to be the result of early diagnosis and treatment, improved methods of treatment, and management of tuberculosis as a contagious disease. The patch test was positive in all cases of clinically significant tuberculosis at the time of diagnosis. In a group of 53 students the patch test was found to be as accurate as first-strength purified protein derivative (PPD). The authors consider that medical students still run a greater risk of tuberculous infection than other student populations and that continued vigilance is still necessary. S. J. SHANE

Parasternal Chondrodynia (Tietze's Syndrome).

N. BARNES AND J. GRAHAM: *Ann. Int. Med.*, 51: 57, 1959.

Only nine cases of parasternal chondrodynia (Tietze's syndrome) have been previously reported in the American literature. Four additional cases are reported here, bringing the total to 13. This syndrome is commoner than the quoted figures indicate. It is characterized by a spontaneous tender swelling of the costal cartilage at the sternal edge. The overlying skin is normal. The most commonly affected cartilage is the 2nd, then the sterno-clavicular joint, and finally the other costal cartilages. The changes can persist for days or months and there are frequent recurrences. Procaine infiltration alleviates the symptoms. It is important to distinguish parasternal chondrodynia from diseases of the heart or lungs. The authors propose this descriptive terminology to replace the older designation of Tietze's syndrome. They believe that the characteristics of the syndrome justify the adoption of the following diagnostic criteria: (1) tenderness and swelling of costal cartilage at the sternal border; (2) normality of the overlying skin; (3) absence of other disease or history of trauma; (4) relief by procaine infiltration.

S. J. SHANE

Evolution and Early Results of Tracheal Fenestration.

E. E. ROCKEY, S. A. THOMPSON AND C. F. BLAZSIK: *Am. Rev. Tuberc.*, 79: 773, 1959.

Tracheal fenestration is an airtight, leak-proof, skin-lined tracheocutaneous opening created for the purpose of repeated tracheobronchial aspirations or self-aspiration and for administering medications. This paper presents the evolution of tracheal fenestration, and experiences and results of 17 consecutive cases.

Six of these patients experienced some palliation and five marked palliative relief. Three patients were rehabilitated to a degree, and three gained the status of "marked rehabilitation". Nine of the 17 patients were alive at the time of submission of this paper for publication, with no operative deaths in the series. The observations appear to confirm the impression that the major source of disability in advanced cases of emphysema, including "dry" emphysema, is secretional occlusion of the peripheral bronchi and bronchioles rather than bronchial spasm.

S. J. SHANE

Relationship between Heart Disease and Gall-Bladder Disease.

A. G. HAMPTON, J. R. BECKWITH AND J. E. WOOD, JR.: *Ann. Int. Med.*, 50: 1135, 1959.

The statistical incidences of heart disease and gall-bladder disease are discussed, and evidence is cited to support the view that the gall-bladder may initiate reflexes which help to produce electrocardiographic changes, arrhythmias and an anginal type of pain.

Concomitant heart disease and gall-bladder disease is quite common. An association greater than coincidence is probable. Experimental and clinical evidence has shown that arrhythmias and decreased coronary blood flow may be induced by distension of the biliary tract. Angina pectoris, arrhythmias and ECG abnormalities may improve after cholecystectomy. ECG changes which revert to normal after operation appear to constitute evidence of underlying coronary artery disease. The mortality risk in patients with heart disease and gall-bladder disease is probably under 3%. Elective cholecystectomy is usually well tolerated. Improvement in cardiac status results only from removal of extrinsic stimuli. There is no change in the fundamental intrinsic heart disease.

Thus patients with a history of repeated attacks of cholecystitis who have a non-functioning gall-bladder on x-ray examination should also have a cholecystectomy, for the same reason. Patients with an asymptomatic non-functioning gall-bladder should not have such an operation unless more clinical evidence indicating gall-bladder disease develops.

S. J. SHANE

Studies on the Virulence of Tubercle Bacilli Using P^{32}.

Y. YAMAMURA *et al.*: *Am. Rev. Tuberc.*, 79: 738, 1959.

Various strains of heat-killed P^{32}-labelled mycobacteria were injected intravenously into mice, and the breakdown of these bacilli *in vivo* was observed by tracing the radioactivity in the whole body and liver of mice. In the case of avian strains and a human avirulent strain, the rate of elimination of P^{32} from whole bodies and livers was fast; in the case of virulent strains and the attenuated strain of BCG, the rate of elimination was slow. The difference was slight however.

When the bacilli were extracted with ether-alcohol (1:1) and injected into mice, the results remained essentially unchanged, although the differences between virulent and avirulent strains were smaller than with unextracted killed bacilli. When the bacilli, extracted with ether-alcohol and then with chloroform, were used for injection, the elimination rate of P^{32} from whole bodies and livers was almost the same for all strains of mycobacteria.

The calculated half-time of diminution of P^{32} for virulent bacilli *in vivo* was three to five times longer than that for defatted and avirulent bacilli. This suggests that virulent bacilli are more resistant to the *in vivo* destruction and elimination mechanism than the avirulent strain and that the chloroform-soluble lipid fraction plays an important role in this mechanism.

S. J. SHANE

SURGERY

Cardiac Tamponade Complicating Left Heart Catheterization.

K. P. SINHA AND E. A. FITCH: *J. Thoracic Surg.*, 37: 720, 1959.

Left heart catheterization is a routine procedure in cardiac centres interested in the detailed study of cardiopulmonary pathophysiology. The approach most commonly used is the right paravertebral one (Fisher, Björk). However, in aortic valve disease and in cases of mitral valve disease with normal-sized left atrium, puncture of the aorta has been reported on using this approach. The patient reported by Bagger, Björk and Malonstrour died of cardiac tamponade due to puncture of the ascending aorta. A British group led by Sir Russell Brock had three deaths in a series of 24 cases. He emphasized the complication of puncturing the aorta in patients with a normal-sized left atrium, and, in fact, does not employ this procedure in patients with aortic valve disease. In such cases, he punctures the left ventricle directly from the anterior approach and measures the LV-BA gradient (between left ventricle and brachial artery) by putting a Cournand needle in the brachial artery. In the experience of the writers, puncture of the aorta is infrequent and

complications due to this are very uncommon. On the other hand, in transthoracic suprasternal aortography, the aorta is entered at its root with a needle identical in size to that of the left heart catheterization needle, usually in the thicker extrapericardial portion of the aortic wall. They report a case in which puncture of the aorta was followed by a tear of its wall and resulted in cardiac tamponade—the second report in the literature in which cardiac tamponade developed because of a tear of the aorta. Owing to prompt surgical action taken by the surgical team present, the patient recovered. In their second case, cardiac tamponade developed gradually and thoracotomy failed to help the patient. S. J. SHANE

Observations on Volkmann's Contracture (Postanoxic Tissue Syndrome) *(in French).*

C. MENTHA: *Lyon chir.*, 55: 340, 1959.

Two cases of acute vascular injury to the lower limbs are presented. In both cases the superficial femoral artery was replaced by a homograft within five to six hours. This time period of ischæmia was enough to cause nerve damage as determined by electromyography and muscle ischæmia as determined by biopsy. The difference between this syndrome and the Leriche syndrome is described. In the Leriche syndrome the obstruction occurs slowly and the collateral circulation has time to develop. The claudication, coldness and causalgia of the Leriche syndrome did not appear here.

Lumbar sympathectomy, fasciotomy and Achilles tenotomy were found useful in correcting the trophic changes, the anoxia due to the pressure of muscular swelling and heel cord shortening. Skin grafting to necrotic areas of skin was successful.

The time limits for anoxia of various tissues are listed:

1. Brain can survive 5 minutes.
2. Spinal cord can survive 18 minutes.
3. Renal parenchyma can survive 45 minutes.
4. Intestine can survive 100 minutes.
5. Liver can survive 120 minutes.
6. Nerve can survive 240 minutes.
7. Striated muscle can survive 360 minutes.

Hypothermia to 30° C. usually permits one to double these figures. T. A. MCLENNAN

The Place of Surgery in the Management of Intractable Pain.

J. E. A. O'CONNELL: *Brit. J. Surg.*, 46: 608, 1959.

The introduction of new forms of surgical treatment of pain can lead to optimistic claims which must be revised with increased experience, for the beneficial effects may not endure and undesired sequelæ may be too frequent. A series of 100 patients suffering from intractable pain and treated by operations on the central nervous system at St. Bartholomew's Hospital, London, are reviewed. The most frequent operations in this category, those for trigeminal neuralgia and operations on the sympathetic nervous system for visceral pain and causalgia, are not included. Most of the patients were suffering from malignant disease.

Sensory rhizotomy was performed in 19 cases. Trigeminal sensory root section for the pain of malignancy was successful until pain recurred by the spread of the growth to the other side. Extended trigeminal rhizotomy to include the upper cervical roots and the glossopharyngeal nerve gave relief from pain till the patients died or were lost to follow-up. Posterior spinal roots were sectioned in ten patients of whom five were completely relieved, three suffered a recurrence of pain within two to five weeks, one had pain unchanged though analgesic, and there was one operative death.

Prefrontal leucotomy was performed on five patients with severe continuous pain from cancer. Two were completely relieved. One had pain only when food passed over the ulcerated floor of the mouth. One was greatly but not completely relieved and one remained stuporous. All showed undesirable sequelæ in personality and emotion. Prefrontal leucotomy should be performed only rarely, for while the patient may be relieved of pain, the loss of insight and emotional response is a serious one, only tolerable in the cachetic patient whose morale is all but broken because of extensive, painful, and ulcerating cancer.

Anterolateral chordotomy was carried out in 78 patients, of whom ten had pain from causes other than neoplasm: painful phantom limb or spinal injury. Complete relief from pain was obtained in 45, partial relief or recurrence of pain outside the area of analgesia in 22, and no relief in five. Undesired sequelæ were frequent and included loss of sphincter control, a motor defect, and pressure sores. Retention of urine after the operation usually persisted for two or three weeks, though 38 regained voluntary micturition. Girdle pain is a frequent and troublesome postoperative complication for a few weeks.

None of these procedures is ideal and none is certain to relieve pain permanently. Complete relief was obtained in 62% of the 94 patients who survived operation, 23% obtained complete relief with recurrence, and in 14% the relief of pain was only in part or not at all. Surgery is of value in the treatment of intractable pain in selected patients when the operation is carefully chosen, well-timed and efficiently performed.

BURNS PLEWES

Effect on Survival of Certain Variables in Breast Cancer.

B. F. BYRD, JR. *et al.*: *Ann. Surg.*, 149: 807, 1959.

A follow-up study which included 99.57% of 1137 patients with cancer of the breast at Nashville, Tennessee, showed that 25 of them had developed another primary cancer in the other breast. Though only 2.2% of the total group, these patients with double primaries constitute 7.3% of the five-year survivors, so the development of a second breast cancer is not necessarily a fatal thing. Private patients survived appreciably longer, but the delay of four months before an operation was half the time in the whole group, and less than one-half had axillary metastases. An attempt to correlate microscopical appearance with survival failed.

The poorest five-year survival rate was found in the sixth decade. The 20-29 age group had as good a five-year survival rate as any, and so did the group with co-existing pregnancy and lactation. Of the patients who had no axillary metastases in the radical mastectomy specimen, 80.9% were alive five years later, but of those with axillary node metastases only 36.5% lived five years.

Postoperative radiation therapy adds much when positive nodes are found. Surgical ablation of the primary with axillary dissection produces the most satisfactory therapeutic effect. BURNS PLEWES

THERAPEUTICS

Tolbutamide Treatment of 200 Diabetic Patients: Secondary Failure.

J. M. Moss, D. E. DELAWTER AND J. J. CANARY: *Ann. Int. Med.*, 50: 1407, 1959.

The results obtained from using tolbutamide in 200 patients with diabetes are reported in this paper. Of the patients 49% obtained a good or excellent result, 17% showed no demonstrable benefit, and 16% had a temporary beneficial effect, followed by a secondary failure to respond. The best results were obtained in the asymptomatic older diabetic patients who were of near-normal weight and who required less than 40 units of insulin. Most of the primary and secondary failures were in patients who did not meet these criteria.

Five patients had a good response for several months and then developed secondary failure without obvious cause. Because this secondary failure cannot always be predicted, it is important that patients on tolbutamide be followed up at intervals of from four to eight weeks after initial stabilization. Six obese patients obtained better results from a placebo than they did from tolbutamide. It would seem that the good results often reported in obese patients are due to reduced caloric intake rather than to tolbutamide. Obese patients should be treated by diet alone, and tolbutamide used only if hyperglycæmia persists. Eleven patients under-went major surgery and two had normal pregnancies while their diabetes was controlled with tolbutamide. There were no significant toxic effects.

S. J. SHANE

Use of Bronchodilators in Chronic Respiratory Disease.

S. M. FARBER AND R. H. WILSON: *Ann. Int. Med.*, 50: 1241, 1959.

The mechanisms for the obstructive wheezing found in asthma, chronic bronchitis, senile emphysema and bullous emphysema are discussed in this paper. Bronchospasm is a variable part of the mechanism of obstruction but is almost never the whole cause and, in the majority of cases, is not even an important cause in the opinion of the authors. Therefore, the use of nebulized sympatheticomimetic agents to reduce bronchial mucosal œdema as well as relax bronchial muscle, together with basal bronchial muscle relaxation by such substances as ephedrine, appears to offer the most help. Parasympatheticomimetic agents are discussed and their occasional usefulness by nebulization is pointed out; however, it is felt that they belong to the group of drugs best administered systemically. The usefulness and the limitations of aminophylline and other similar agents are considered in increasing respiration, improving cough and providing relaxation of the bronchial musculature. It is realized that the best results with aminophylline will be obtained in the patient in whom bronchospasm and secretions are the major problem.

The direct bronchodilators form only a part of the whole treatment of the patient with obstructive emphysema causing wheezing. Some of the other modes of treatment are briefly outlined. Nevertheless, these substances probably form the backbone of treatment of the average case and the best mechanism of using them will provide a better therapeutic result with less systemic toxicity.

S. J. SHANE

DERMATOLOGY

Generalized Flushing of the Skin with Urticaria Pigmentosa.

A. R. BIRT AND M. NICKERSON: *A.M.A. Arch. Dermat.*, 80: 311, 1959.

Urticaria pigmentosa is a rare skin condition characterized by yellow or brown macules or nodules which, when rubbed vigorously, produce a whealing or urtication localized to the pigmented area. For many years it was thought that this condition was limited to the skin, but recently visceral and bone lesions have been discovered. In all these areas there is an accumulation of tissue mast cells. These cells are thought to contain heparin, hyaluronic acid, histamine and serotonin. The authors report three cases of generalized flushing of the skin associated with urticaria pigmentosa. In two, the flushing was induced mechanically by rubbing solitary nodular lesions of urticaria pigmentosa; the third had generalized cutaneous urticaria pigmentosa, and the flushing was induced by the injection of codeine phosphate. The authors postulate that this generalized flushing may be due to the release of serotonin similar to that seen in the carcinoid syndrome.

ROBERT JACKSON

INDUSTRIAL MEDICINE

Preparation for Retirement.

F. H. SHILLITO: *J. Occup. Med.*, 1: 382, 1959.

The ideal alternative to mandatory retirement at the age of 65 years is presented in the concept of flexible retirement. Such a program would consider physiological age rather than chronological as the sole basis of retirement. A man would continue to work as long as feasible. For some the retirement age would be established in the low fifties (premature senility), but for the great majority, in the years between 60 and 70. Industrial physicians would be faced with difficult appraisals, both physical and psychological.

A flexible retirement program would bring many problems. The difficulties are as yet too great for general solution. The immediate problem, therefore, is to deal with the present-day situation where mandatory retirement at age 65 is the usual plan. An individual is then forced to make major adjustments, preparations for which should be started early. It is never too early to make plans.

The individual who in his younger years is self-reliant, enthusiastic and enjoying life will have little trouble in his years of retirement. A program of pre-retirement indoctrination will help the worker develop certain basic elements essential to his later contentment. There are important health and economic factors. Hobbies and activities are essential and preparations for these should not be postponed. Much thought is needed when planning future home environment. Probably the most important phase of preparation is the attainment of a positive philosophy through religion or other means. The industrial physician is in a position to give advice which will help the individual achieve personal contentment and equanimity.

Reference is made also to a few sensible modifications of retirement plans and social security benefits, which would allow an older worker to turn to less exacting and difficult jobs.

MARGARET H. WILTON

Canad. M. A. J.
Mar. 5, 1960, vol. 82

BOOK REVIEWS

THE DIABETIC'S HANDBOOK. Anthony M. Sindoni, Jr., St. Joseph and Philadelphia General Hospitals, with 18 collaborators. 285 pp. Illust. 2nd ed. The Ronald Press Company, New York, 1959. $4.50.

During the past year there has been much controversy on the question of how much information should be given to a patient about his disease. It is about 50 years since Dr. Joslin began to teach his patients, both by lecture and in print, almost all that was then known of diabetes. This was, perhaps, a breaking of new ground. With the passage of time there is now general agreement that those diabetics who are well informed as to the nature and the consequences of their illness prosper best.

This excellent handbook for patients now appears in its second edition and has been thoroughly brought up to date. It is perhaps surprising to learn that 18 collaborators contributed to its preparation—an unusual degree of specialism within a specialty. Yet the book is well written and the material uniformly well presented.

Many of the developments of the last decade are presented, such as the preparation of N. P. H. insulin by Hagedorn and of the lente insulins by Hallas-Moller, and the arrival of the oral substitutes for insulin; these are well described and discussed. In recent years there has been general acceptance of diet programs neither high in carbohydrates nor in fat and moderately restricted in calories. This has much simplified the prescription of diet formulæ. The new food exchange system has further helped the patient to prepare dependable and varied diets. These diets are described in detail. The newer methods of examining urine have also been reviewed.

While this book is prepared primarily for the diabetic patient for whom it may well be recommended, the practising physician will find much to interest him within its covers.

SOCIAL PSYCHIATRY AND COMMUNITY ATTITUDES. WHO Technical Report Series No. 177. 40 pp. World Health Organization, Palais des Nations, Geneva, Switzerland, 1959. $0.30.

This is another admirable report from WHO. The Expert Committee has managed to condense into a mere 40 pages a matter which is often expanded into books ten times the bulk and more. But this is not just a condensation. The presentation is lively and stimulating. This is a model report of its kind and can be strongly recommended not only to those who work full time in mental health and mental illness, but for many whose work adjoins it, particularly general practitioners for whom its brevity makes it especially suitable.

The Committee has two main premises. The first that mentally ill individuals can be fitted into a more complex social environment, and the second that the provision of adequate opportunities for favourable social contacts is useful for the prevention and cure of mental disorder.

The report is sensible and modest in its claims for social psychiatry and does not indulge in any of those flights of fancy which psychiatrists have sometimes been unwise enough to discuss publicly. The Committee properly urge psychiatrists to be cautious in advertising their abilities to treat sick societies. This may not lie within their competence. They show the same good sense in their comment, "In whatever way a society may be organized, it is not so much the type of mental disorder that varies as the community's reaction to abnormal behaviour." The attitude of different societies differs enormously. It is surprising and gratifying to find that one of the most liberal outlooks is found among the "Babalawo" in Nigeria (the so-called witch doctors who actually combine the functions of healer and religious leader). The Babalawo apparently undertake total physical and psychiatric care and are therefore very *avant garde.*

The report emphasizes repeatedly the positive attitude which the community has towards somatic explanations for mental illnesses. Perhaps some of the puzzling difficulties of social psychiatry will be dissipated if we develop greater understanding of those mysterious ailments which we presently label functional. The report is excellent and should be widely read.

There is one omission—a bibliography or at least a selected reading list. Surely this should be included, so that we could get even more benefit from the wide knowledge of the Committee.

PRINCIPLES AND PRACTICE OF OBSTETRIC ANESTHESIA. J. Selwyn Crawford. 128 pp. Illust. Charles C Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1959. $4.75.

Anæsthesia for obstetrics presents a situation with a double hazard. First, to the mother, because the time of delivery is unpredictable and usually presents all the dangers of an emergency operation: apprehension, full stomach, over- or under-sedation, increased intra-abdominal pressure with splinting of the diaphragm, etc. Second, to the infant, who has to be regarded as a "poor risk" patient because the anæsthetist can be in only indirect communication with its more vulnerable status. Dr. Crawford analyzes this situation by discussing the physiological changes in the mother during pregnancy, the newer knowledge of placental transmission of respiratory gases, anæsthetic agents, and muscle relaxants; and by assessing the variety of analgesic agents. Most of the book is then devoted to the description of anæsthetic methods for a variety of obstetrical conditions. For the most part, his own views are shared by many, but, as with most difficult situations, differences of opinion may be expressed—particularly about the manner in which he uses barbiturates and muscle relaxants. On the whole, this book is a concise and up-to-date analysis of a branch of anæsthesia which still requires a great deal of study and improvement. The author has been forthright in revealing the areas where our knowledge is still quite grey, and has succeeded in showing where more work must be done. This exposition should be of great value both to the anæsthetist and to the obstetrician.

A TEXTBOOK OF NEUROLOGY. Houston Merritt. 765 pp. Illust. 2nd ed. Lea & Febiger, Philadelphia; The Macmillan Company of Canada Limited, Toronto, 1959. $12.50.

This standard textbook is up-to-date and sound. Childhood neurological disorders are included in the presentation. Metabolic diseases have received special attention, and the illustrations are excellent.

In some instances therapy has been over-condensed, but good references to wider reading are provided.

(Continued on page 565)

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The new aldosterone-blocking agent, Aldactone, is a complex spirolactosteroid, closely resembling aldosterone in configuration. It arrests the activity of aldosterone and other mineralocorticoids which promote the retention of sodium and water, apparently by blocking their binding sites. Aldactone is thus able to establish a satisfactory diuresis in edematous patients who have heretofore been considered beyond the help of medical management with conventional diuretics.

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Mercurial and thiazide compounds, presently the most widely used diuretic agents, apparently inactivate enzyme systems necessary to transport ions across the renal tubular epithelium. Both act mainly in the proximal convoluted tubules.

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acts by blocking hormone mediators (mineralocorticoids) governing the reabsorption of sodium and water and exerts its influence in the distal segment of the renal tubules. Aldactone is able to exert a beneficial therapeutic effect in two distinct ways:

1. Because it blocks an altered physiologic mechanism which has caused reabsorption of sodium, Aldactone may be used as the sole agent to produce a highly satisfactory diuresis.

2. Because of its different site and different mode of action, Aldactone has a true, highly valuable synergistic activity when used in a program of treatment that includes proximally acting diuretics.

New...Prevention of Potassium Loss

A distinct advantage of Aldactone in treating edema is its ability to conserve potassium during diuretic therapy. This property is particularly important in most edematous patients since hypokalemia may precipitate hepatic coma in those with cirrhosis, and digitalis intoxication in those taking digitalis.

It should be emphasized that Aldactone does not significantly affect an existing normal serum potassium level. When given as the sole agent, Aldactone averts the hypokalemia often induced by mercurial and thiazide diuretics, and when given in combination largely or wholly offsets the potassium loss which they induce.

For a preview of the change Aldactone is expected to make in the treatment of edema, please turn the page.→

What Physicians May Expect of

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It is fully expected that Aldactone will change present medical concepts of the therapeutic limitations in the management of edema. Many patients living in a greater or lesser state of edematous invalidism can now become edema-free. To others, gravely ill, Aldactone will be life-saving. Clinical trials demonstrate that, when used as the sole agent acting on the kidney in the relief of edema, Aldactone will produce a satisfactory diuresis in about half of those patients whose edema is intractable to conventional diuretic agents.

Furthermore, when Aldactone is used in conjunction with a mercurial or thiazide diuretic the level of satisfactory response may be expected to rise to approximately 85 per cent in those whose condition was refractory to all previously available therapeutic measures.

The response of some patients with extremely resistant edema may be further enhanced by administering a glucocorticoid such as prednisone. When Aldactone is used in such a comprehensive therapeutic regimen a satisfactory diuresis and relief of edema may be expected in more than 90 per cent of edematous patients *who would not otherwise respond.*

DOSAGE: For most adult patients the optimal dosage of Aldactone, brand of spironolactone, is 400 mg. daily in divided doses. Aldactone should be administered for at least four or five days before appraising the response, since the onset of its therapeutic effect is gradual when the drug is used alone. When used in combination with mercurial or thiazide diuretics Aldactone manifests greater activity on the first and second days. The dosage range is 300 to 1,200 mg. daily and dosage should be adjusted to the response of the patient. A dosage of 400 mg. daily, however, will meet the requirements of most patients, and even 800 mg. daily will seldom be required.

SUPPLIED: Aldactone is supplied as compression-coated yellow tablets of 100 mg.

G. D. SEARLE & CO. OF CANADA LTD., 247 QUEEN ST., E., BRAMPTON, ONT.

(Continued from page 560)

LEXICON OPHTHALMOLOGICUM. Multilingual Ophthalmological Dictionary. Edited by M. E. Alvaro, Sao Paulo, Brazil, and others. 217 pp. J. B. Lippincott Company, Philadelphia and Montreal, 1959. $9.00.

The International Council of Ophthalmology has sponsored the compilation of a six-language dictionary of the vocabulary used in this specialty. The work is modelled after a medical dictionary published in Paris in 1950 by Dr. A. L. Clairville in so far as all the words are listed in alphabetical order in English, followed in each case by their equivalent in German, Spanish, French, Italian and Latin. The English section is therefore the key to the present edition. Moreover, each English word is numbered so that it can be easily traced if the reader starts off with, say, a German or a French word (all he has to do is to look up the German or the French words in their respective lists at the back of the book, find out the proper number and trace the English equivalent of the same number in the English key-section).

The ophthalmological vocabulary seems well covered although shortcomings may come to light with further use. The text is clearly written and use of this book is possibly simpler than the above explanation may lead one to believe. It is obviously recommended to ophthalmologists, neurologists and internists who wish to broaden the scope of their references by tapping foreign sources directly. It will also help those who do not wish to take this trouble by supplying the translators with an accurate and readily available dictionary, enabling them to turn out better work.

In its preface, Dr. Duke-Elder writes that "if the scientist makes any attempt to keep up with world literature in his subject, the unnecessary burden thrown upon him by this curse of Babel is immense." In this reviewer's mind, lexicons like the present one represent the most effective attempt at shaking off this curse and overcoming language barriers together with the ignorance and prejudices which stem from them.

BESCHAEFTIGUNGSTHERAPIE. Einfuehrung und Grundlagen. (Occupational Therapy. Introduction and Basis.) G. Jentschura and others. 299 pp. Illust. Georg Thieme Verlag, Stuttgart, W. Germany; Intercontinental Medical Book Corporation, New York, 1959. $10.70.

In West Germany the development of occupational therapy on an official basis has been comparatively recent. Content of an educational course for occupational therapists was first laid down in 1953, but since then development of this specialty has been rapid and in 1958 the German organization entered the World Federation of Occupational Therapists. The present volume is primarily intended as a textbook for occupational therapists, but contains much material which would be of interest to all concerned in problems of rehabilitation.

The book begins with a detailed discussion of the varieties of occupational therapy, with considerable technical detail; many varieties of therapy are included, such as weaving, basket-work, knitting, work with paper and cardboard, book-binding, pottery, leather-work, woodwork and metal work, and even work with bone and cocoanut. However, the relationship to daily living is also considered in these chapters, and examples are given of simple devices for overcoming disabilities in daily life.

The greater part of the book, however, is taken up with a detailed consideration of occupational therapy in three fields of endeavour—orthopædic surgery, the surgery of injuries and tuberculosis, and psychiatry. In the first of these chapters, there is a very valuable guide to the prescription of ocupational therapy with a clear delineation of the roles of the physician and the occupational therapist. The whole work is well illustrated and should interest German-speaking physicians and other personnel concerned with rehabilitation.

CLINICAL PROSTHETICS FOR PHYSICIANS AND THERAPISTS. A Handbook of Clinical Practices Related to Artificial Limbs. M. H. Anderson, C. O. Bechtol and R. E. Sollars, University of California, Los Angeles, 393 pp. Illust. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1959. $11.50.

Since World War II, the United States has produced many advances in the field of prosthetics. These have been the direct result of a carefully planned research program which has produced a completely new branch of service related to the biomechanics of all kinds of amputations. As a consequence, the design and fitting of artificial limbs has been removed from the realm of hand-craft and for the first time placed on a scientific basis.

This new knowledge has been disseminated by means of a series of instructional courses given over the past five years for physicians, therapists and limb makers. The ultimate aim of these courses has been to teach doctors to prescribe the correct type of limb for each individual patient, and to make certain that it fits properly and is working correctly before delivering it to the patient. The result has been a vast improvement for the amputée, who formerly was at the mercy of the limb fitter.

Those who have taken the courses will recognize that the volume being reviewed is assembled directly from the mimeographed instruction manuals used during the courses. It is produced by the method of off-set lithography from typewritten sheets and illustrated with many line drawings and a few photographs. This book is not for the uninitiated, but anyone familiar with amputee problems will find it of considerable value. It should be available in all hospitals or rehabilitation units where prosthetic clinics are held. It is to be hoped that the next edition will contain sections on below-knee and foot amputations.

LECTURES ON THE SCIENTIFIC BASIS OF MEDICINE. Volume VII, 1957-58. British Postgraduate Medical Federation. 496 pp. Illust. The Athlone Press, University of London, England, 1959.

The latest series of twenty-three lectures arranged by the British Postgraduate Medical Federation continue to describe applications of basic sciences to the practice of medicine. Several of the lectures concern comparatively recent applications of biochemistry to such fields as genetics, hæmatology and hypertension. The opening lecture gives us a simple discussion of some of the scientific principles of otology and another describes an experimental approach to the problems of resistance to tuberculosis. Other topics covered include the growth of viruses, recent advances in poliomyelitis, cell regeneration, ageing in the female reproductive tract, and the influence of oxygen on responses to ionizing radiation. Almost anyone in internal medicine will find something to interest and instruct him in this well-produced book.

Canad. M. A. J.
Mar. 5, 1960, vol. 82

DIABETES MELLITUS. III Kongress der International Diabetes Federation, Düesseldorf, 1958. (Proceedings, 3rd International Congress, Federation of Diabetics). Edited by K. Oberdisse and K. Jahnke. 799 pp. Illust. Georg Thieme Verlag, Stuttgart, W. Germany; Intercontinental Medical Book Corporation, New York, 1959.

This book gives the proceedings of the International Diabetes Federation's third congress in 1958. Although the statements of the participants in panel discussions and question-and-answer periods are not included, the papers presented at the congress are faithfully reproduced. The review of the book is therefore a review of the proceedings of this congress.

Four main subjects were discussed: (1) The mechanism of the action of insulin. (2) Relations between the metabolism of carbohydrates and fat. (3) Diabetic angiopathy. (4) The oral treatment of diabetes mellitus. Other subjects were covered at panel discussions. It is difficult to mention more than a few of the highlights of this very productive and interesting conference. D. Katsch (Greifswald) gave the Banting Memorial Lecture which was entitled "The relative health of the diabetic," a review of the present state of diabetics in general and of their problems in Germany in particular. He dealt with the duties of the health authorities, of the doctor, and of the patient himself. He called on the authorities to increase the help to the aged as well as juvenile diabetics. His appeal to doctors and authorities to prevent the development of complications such as fatty liver and retarded growth in juvenile diabetics, because of poor control of their condition, is particularly touching and deserves our attention. In infantile diabetes, he suggests that pancreatitis following mumps, jaundice or pneumonia should be considered as a possible etiological factor.

Wieland elucidated the relationship between the metabolism of carbohydrates and fats and paused to point to the exciting and difficult tasks ahead in this field of research. The relationship between hormonal functions and the enzyme and coenzyme systems is broadening rather than narrowing the question with regard to the action of insulin and utilization of energy in cells.

Although no answer was obtained to the question of angiopathy in diabetes, many facts were elucidated and excellent discussion took place with regard to its early recognition, the factors involved in its production and the emphasis on good control of diabetes as one definite means to its prevention. Throughout the deliberations a wealth of experimental as well as clinical material was presented, and whilst this is primarily a report of the proceedings of the conference, it could also be termed a textbook or, more appropriately, a handbook of diabetes and what was known of it in the year 1958.

The list of contributors is so long that it could not possibly be enumerated here, but anyone who would like to know which laboratory anywhere in the Western hemisphere or in Western Europe or, for that matter, in some countries behind the Iron Curtain, is interested in what particular problem in diabetes, will find the information in this book. As was to be expected, the section on diabetes mellitus and pregnancy was chaired by Priscilla White of Boston. Attention was paid to such special problems as the diabetic and the driver's licence, to the biostatistics of diabetes mellitus, the pattern of diabetes in Africans in Uganda, and the age and sex incidence on a geographical basis. The social-medical significance of diabetes mellitus was discussed also. Each presentation is produced in the language in which it was presented at the congress, that is to say, in either French, English or German. It is not surprising that almost half of the book is occupied by reports on the pharmacology, pharmacodynamics and clinical features of oral therapy of diabetes mellitus.

The book is well printed and the illustrations well produced. All in all, an excellent reference book for those interested in diabetes or some of its aspects.

LE NOUVEAU-NE: Directives, Thérapeutiques Médico-Chirurgicales (The Newborn: Medical and Surgical Therapeutic Instructions). Marcel Fèvre. 200 pp. Illust. G. Doin et Cie, Paris, France, 1959. 2500 Fr.fr.

This small volume is the surgical companion to a series of monographs on childhood diseases published by the "Bibliothèque de Thérapeutique Médicale". The object of this treatise as stated by the author is to acquaint the physician with the surgical conditions peculiar to the first month of life and to direct him in their management. Since it is not primarily intended for the surgeon, little time is spent on technical procedures. Emphasis is properly given to the need to move the child to a specialized pædiatric centre for major surgery wherever possible.

The first portion of the book deals with immediate postnatal emergencies followed by a section on lesions secondary to birth injury. Next is a very good chapter on the technique of physical examination with a view to excluding external malformations. The fourth chapter deals with derangements due to internal anomalies presenting soon after birth, while the fifth treats of those abnormalities presenting difficulties at a somewhat later time. Finally a short note on supportive preoperative and postoperative management of the surgical newborn concludes the book.

Certain statements made are somewhat at variance with teaching on this continent. The subject of intersexuality for instance is dealt with on a rather superficial plane, with little effort to differentiate between the various forms. There is no mention of the value of chromosomal sex differentiation. Finally the advice given is to defer definitive treatment until puberty when the adolescent is presumed capable to decide for himself to which sex he wishes to belong. Circumcision is frowned upon on general principle. An inguinal hernia in the newborn is treated with a truss unless incarceration or some other complicating factor intervenes; if it has not reduced itself by the age of two, surgery is advised. Breast abscesses are treated with polyvalent vaccines rather than antibiotics. "Large" thymus glands are still treated by irradiation in spite of their benignity and the recent association noted with thyroid carcinoma. Finally, vascular nævi are treated very early by surgery, irradiation or carbon dioxide snow, with little attention given to the natural tendency of many of these to regress spontaneously.

In spite of these controversial points in management and treatment, the book is a valuable one, particularly from the diagnostic point of view. It also offers a good index for easy references. It is a pity that the bibliography has been kept to a minimum; fuller references might have compensated for the paucity of discussion in the text made necessary by the author's aim at brevity.

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RESUSCITATION OF THE UNCONSCIOUS VICTIM. A Manual for Rescue Breathing. Peter Safar, Chief of the Department of Anesthesiology, Baltimore City Hospitals, and Martin C. McMahon, Captain, Baltimore Fire Department Ambulance Service. 79 pp. Illust. Charles C Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1959. $2.00.

This manual defines concisely the condition of asphyxia, the recognition of this condition, and the most important single step in resuscitation of any victim of asphyxia: re-establishment of a clear airway. The description of the steps in resuscitation was written primarily for those concerned with the application and teaching of first aid. Most of the recommendations are based on the authors' professional experience. In the instructions each step is clearly illustrated with an appropriate diagram which can be understood at a glance. Although the major stress is placed on the mouth-to-mouth method of resuscitation, several other techniques are described for those who should be classed as experts. The format of this manual is such that it can be readily available to everyone concerned with first aid resuscitation. Those who read this manual will never be at loss when attempting first aid to restore the life of a victim of asphyxia, regardless of the cause.

A GUIDE TO ORTHOPÆDICS. T. T. Stamm, Guy's Hospital. 115 pp. Illust. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1959. $3.75.

The author states that the purpose of this manual is to outline briefly some of the general principles in the management of orthopædic problems for the information of the non-specialist partaking in their management, in order that he may fulfil his part more knowingly and efficiently. Broadly speaking, the book will help serve that purpose. Certain chapters are very commendable for their conciseness and clarity, namely Chapter IV on Affections of individual joints, Chapter X on Paralysis, Chapter XI on Physiotherapy, and Chapter XII on Splints, appliances and plaster casts. Perhaps too much space (almost one-quarter of the book) is devoted to conditions of the feet. Though important in any orthopædic practice, foot problems do not hold the relative importance for the physiotherapist they have been accorded here, nor does their management demand such a great amount of care by the non-specialist. Some of the views of the author on flat feet (e.g. spastic flat foot) are open to debate, though it should be mentioned that at the beginning he points out that his approach to the problem discussed is a personal one.

Diagrams included are, in general, good. In a book of this nature their use and that of pictures will often convey more than the written word to the less enlightened reader of the subject. Their increased use in future editions is suggested.

The explanation of the healing process in bone is somewhat technical and the terminology a little beyond the scope necessary in a book of this kind. This criticism might also be directed to the section on posture and its maintenance.

However, "A Guide to Orthopædics" will be a valuable addition to the library of those to whom it is directed, the non-specialists concerned with some aspects of orthopædic treatment.

DICTIONARY OF MEDICAL SLANG and Related Esoteric Expressions. J. E. Schmid, President, The American Society of Grammatolators. 207 pp. Charles C Thomas, Springfield, Ill.; The Ryerson Press, Toronto, 1959. $7.50.

The author of the Reversicon, reviewed earlier in these pages, has come out with another feat of linguistics in the form of a compendium of English and American slang words related to medical topics. These range from 18th century England to rock-and-roll U.S.A. and the result, if somewhat startling, is nonetheless interesting. The book will be enjoyed by those who are interested in the evolution of language. It also offers a vivid picture of the imagination and creative inventiveness of the man in the street (particularly the back-street and even the red-light district!). The reader is warned in the preface that "the outstanding [characteristic of slang] is unabashed frankness. Slang abhors euphemism . . . Slang is indeed voluble, sanguine, uncastrated." In the light of the text these remarks may even be construed as a form of understatement.

The bulk of the book is limited in time and place to U.S.A. 1959. It is doubtful that it could be applied to other English-speaking countries to any large extent although American influence tends to grow far and wide, perhaps more in technological jargon than in matters pertaining to health in everyday life. There is a good possibility that the greater part of this book will be out of date in ten years' time—some words will have been forgotten and new ones introduced, as is the fate of words at the outskirts of the main body of any language that are not preserved by constant use in the written form. Yet, as has happened in the past, some of them may work their way into respectable language and eventually become acceptable forms of expression. In this respect the book has a certain historical value.

Although a lexicon may not be superfluous at times to the understanding of certain areas of one's own mother tongue which may be altogether quite as foreign as another language, it is doubtful that a practitioner may ever use it to any considerable extent. However, by its colourful, descriptive and daring métaphores, its Rabelaisian comparisons and picaresque expressions the book may have an appeal to certain readers interested in the field of linguistics and more particularly semantics.

HEALER OF ALL FLESH. A novel by Abram Stilman. 441 pp. Whittier Books Inc., New York; Burns & McEachern Ltd., Toronto, 1959. $4.95.

This book, by a Montreal surgeon, describes the Russian revolution as seen through the eyes of a Ukrainian Jewish boy who is able to escape to New York to fulfil his ambition to be a surgeon.

By means of this idealistic and symbolical hero—healer of all flesh—the author is able to discuss many problems of current importance to the general public as well as to the medical profession. The fight against racial discrimination is the main theme of the book, but such subjects as euthanasia, abortion and the colour bar are discussed with the all-embracing humanity of good medicine.

One of the best subsidiary character sketches is that of an aspiring young Jewish surgeon who belittles his racial origin.

NEWS & VIEWS
ON THE ECONOMICS OF MEDICINE

Prepared by the Department of Medical Economics. The Canadian Medical Association

NUMBER 4

Our sources of information are private communications and published comments in medical journals and the lay press. These are usually reliable but incorrect quotation or interpretation is always possible.

In Britain, the Royal Commission on Doctors' and Dentists' Remuneration recently presented its report. Appointed in 1957, the Commission found that existing rates of remuneration of doctors were inadequate and it proposed the establishment of machinery to keep remuneration under review.

The Committee recommended increases in all categories approximating 23% - 26% of pre-1957 income for established physicians with higher increases for younger doctors. They rejected the suggestion that doctors' and dentists' pay can be settled by the application of a formula, tied to the cost of living, or to a special index.

They recommended the setting up of a Review Body to watch the levels and spread of medical and dental remuneration and to report to the Prime Minister. They noted "while the Government cannot abrogate its functions and responsibility for ultimate decisions, we are insistent that the recommendations of the Review Body must only very rarely and for most obviously compelling reasons be rejected".

The State is described as a "monopoly employer for practical purposes". It is recommended that doctors and dentists in the public service should not be used as a regular of the national economy. Their earnings should not be prevented from rising because of a fear that others might follow.

A minority report was presented by Professor John Jewkes, an economist of Merton College, Oxford. He stated " . . . in my opinion, the recommendations of my colleagues in regard to the level of earnings of general practitioners and of part-time consultants will not suffice to restore confidence in these two vital sections of the profession, nor will they provide in the long run an adequate supply of doctors of quality to meet the needs of the service and any improvements that may be sought in it". (1)

The British Medical Journal comments: "the immediate impression must be that the bright promise held out to the profession in 1946 and 1948 is becoming a little tarnished in the somewhat damp light of current economic embarrassments. But the profession did not ask to be nationalized. In the period between 1942 and 1948 it resisted the idea with some tenacity. It should still remain tenacious if it is to enlarge its area of freedom. (2)

(over)

NEWS AND VIEWS on the economics of medicine (cont'd)

Formal notice that the CCF Government in Saskatchewan intends to proceed with its medical care plan was included in the speech from the Throne, read on February 11th. 'In keeping with its intention to bring the benefits of advancing medical science to all citizens, without financial barriers to the individual or his family, my government proposes to inaugurate a province-wide, universal, contributory medical plan" . . . "Legislation will be introduced establishing the framework for this program." (3)

The profession and the government have not as yet reached agreement on the format and function of the proposed Advisory Committee. While some measure of agreement exists on the outline of the terms of reference, the profession is concerned with the government proposal that three officials and employees of government should sit as members of the Committee. They maintain that these individuals would, in effect, be sitting both as advocates and judges. (4)

Mr. Thatcher, the Saskatchewan Liberal leader recently outlined his party's answer to the government's medical plan proposal. He stated that, if elected, the Liberals would sponsor a private-enterprise scheme similar to the doctor-sponsored plans now in operation. The voters would, however, decide the issue by a plebiscite. (5)

Doctors at Kirkland Lake, Ontario, plan to withdraw from an 18-year old mine medical plan. This is one of only two areas in Canada where payments to doctors are based on the capitation method. (6)

Toronto's Queensway General Hospital may be the first hospital in Canada to implement Progressive Patient Care. This shifts the emphasis in patient care to wards based on the seriousness of the patient's illness. Different sections are devoted to intensive care, intermediate care, self-care, long-term care and home care. It is suggested that the plan may effect economies in hospital costs. (7)

REFERENCES:

(1) The Lancet, February 20, 1960
(2) British Medical Journal, February 20, 1960.
(3) Toronto Daily Star, February 12, 1960.
(4) Regina Leader-Post, January 30, 1960.
(5) Saskatoon Star-Phoenix, February 3, 1960.
(6) North Bay Nugget, February 4, 1960.
(7) Toronto Daily Star, February 9, 1960.

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CHEST ROENTGENOGRAPHIC SURVEYS AND PROTECTION FROM RADIATION EXPOSURE

In regard to chest roentgenographic surveys and protection from radiation exposure, several specific recommendations have been made by Chamberlain *et al.* (*Am. Rev. Respiratory Dis.*, 80: 115, 1959). Chest roentgenographic surveys must be continued for the detection of tuberculosis, cancer, industrial thoracic disease, acute and chronic non-tuberculous infections, chest tumours, and cardiovascular abnormalities. Conventional and photofluorographic x-ray units may be used to survey segments of the population which are expected to show a high yield of thoracic disease, but the x-ray machines must be equipped with adequate protective devices. Tuberculin testing in infants, children, young adults, and prenatal patients should be developed as a primary guide to tuberculosis contacts. A roentgenogram of the chest for the detection of tuberculosis should then be limited to those in these groups with a positive tuberculin test. Case-finding programs should be reassessed to determine those segments of the population which should be examined roentgenographically and those which should be tuberculin tested. The instruction and training of personnel should include information concerning the protective devices for all types of x-ray units. A constructive approach is in order to emphasize the continuing usefulness and the need for early diagnosis and treatment of all forms of pulmonary disease.

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FAMILY SPENDING PATTERNS AND HEALTH CARE

Spending for health care in the U.S.A. shows relatively little variation by family income, according to a new study made under a grant from Health Information Foundation. In the January issue of its statistical bulletin, *Progress in Health Services*, the Foundation reported a survey of spending habits conducted among selected families in a small Eastern city, Hackensack, N.J., under the direction of Dr. H. Ashley Weeks. The survey revealed that high-income families (those making $9000 a year and over) spent an average of $232 a year for all health care exclusive of health insurance, against an average of $147 for families making under $5000.

High-income families spent more money for doctors' services, but "only because their average cost for each contact with a physician was higher". Low-income families actually required more physicians' services, and their hospital costs were higher. The difference in total expenditures between the two groups could be accounted for largely by the high-income families' greater utilization of dental and optical services.

Regardless of family income, psychological factors were important in determining how much a family spent for health care. In

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all income groups, families who made a practice of budgeting, buying on impulse, and/or buying on time were more likely to put off getting needed care than other families.

EVOLUTION OF PULMONARY SARCOIDOSIS

In sarcoidosis the lungs are involved more than any other organ system. The earliest lesion of active sarcoidosis may be described as a discrete epithelioid granuloma consisting for the most part of epithelioid cells and giant cells, many of which are of the Langhans' type. Thompson and Popper (*Am. Rev. Respiratory Dis.*, 80: 71, 1959) state that the fate of the sarcoid lesion cannot be consistently predicted. It may remain practically unchanged for indefinite periods; resorb over a period of a few months; or by a slow process of sclerosis be gradually transformed into a relatively acellular fibrous nodule. Repeated liver biopsies in a patient with jaundice showed a fairly consistent morphological pattern of the disease over a two-year period.

The giant cells present may contain inclusion bodies which may be any of three types: the asteroid or radio-inclusion, the lamellated or conchoidal bodies, or a poorly staining anisotrophic fragment resembling a crystal or minute fragment of glass or silica. The second type of inclusion has been noted consistently in tuberculous cavity walls which have undergone "open-healing." In several areas of lung-biopsy sections, sarcoid follicles are noted beneath the mucosa of the bronchus. The bronchial epithelium has undergone metaplastic change, but no ulceration is noted. Bronchial involvement in sarcoidosis has been reported in several cases and in most instances as morphological evidence confirming the clinical and roentgenographic diagnosis of the disease.

The third prominent feature of biopsy specimens is marked bronchiolar proliferation. The epithelium of these bronchioles ranges from cuboidal to tall columnar, and some of these ductal structures are dilated whereas

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others have a very narrow lumen.

The last significant microscopic observation is the presence of para-amyloid material distributed throughout the sections. This hyalin-like substance does not stain specifically for amyloid but does give a positive periodic-acid-Schiff reaction.

The evolution of pulmonary sarcoidosis from the florid stage to the terminal stage is thus revealed in sections of lung tissue taken for biopsy and in necropsy material obtained four and one-half years later. To recapitulate, the salient microscopic changes are: active sarcoidosis, bronchial involvement, bronchiolar proliferation, and para-amyloidosis. The end stages as noted in the tissues from necropsy included bronchiectasis and bronchiolectasis, diffuse fibrosis of the lungs with emphysema and "honeycombing," and marked scarring of the para-amyloid.

THE CANADIAN ANÆSTHETISTS' MUTUAL ACCUMULATING FUND

The Canadian Anæsthetists' Mutual Accumulating Fund, Limited, was organized by the Canadian Anæsthetists' Society to provide primarily for members of the medical profession a mutual fund in which there would be no charge against invested capital for sales expenses or administration, and no penalty on withdrawing money from the Fund through redemption of shares. Since the organization of the Fund in 1957 the invested capital has increased steadily despite adherence to the policy of not employing salesmen or spending money on advertising. Shares issued originally at $5.00 had a net asset value of $5.68 on January 4, 1960. It should be emphasized that this Fund is not a retirement savings plan, and that moneys invested in the Fund are available to the shareholder at any time. The Fund is therefore complementary to the Canadian Medical Retirement Savings Plan.

Information concerning participation in the Fund may be obtained by writing to the Canadian Anæsthetists' Mutual Accumulating Fund, Limited, 178 St. George Street, Toronto 5, Ontario.

NEW APPROACH TO SCHIZOPHRENIA

In April 1952, Osmond and Smythies suggested that schizophrenia might be caused by a defect in adrenaline metabolism. They called this hypothetical adrenaline derivative "M-substance", because they endowed it with mescaline-like psychotomimetic qualities but with an effective potency nearer that of adrenaline. In a second paper in January 1954, Hoffer, Osmond and Smythies reported that adrenochrome might be a suitable candidate for M-substance, and more recently adrenolutin has received consideration.

The facts that tranquillizers are thought by some to have their main effect on adrenaline metabolism, that Heath and Leach extracted from the blood of schizophrenic patients a protein fraction (taraxein) which itself acts as a psychotomimetic, and that schizophrenic patients have more adrenochrome in their cerebrospinal fluid than

do other psychiatric patients, give encouragement to researchers adopting this approach.

Some opponents state that the effects of mescaline, LSD-25 and adrenochrome more closely resemble toxic confusional states than schizophrenic illness, but this attempt at differentiating belies a greater precision than is yet possible.—*J. Ment. Sc.*, 105: 653, 1959.

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EIGHTH CONGRESS OF THE PAN-PACIFIC SURGICAL ASSOCIATION

The Eighth Congress of the Pan-Pacific Surgical Association will be held in Honolulu, Hawaii, from September 27 to October 5, 1960. All members of the profession are eligible to register and are urged to make arrangements as soon as possible if they wish to be assured of adequate facilities. An outstanding scientific program by leading surgeons promises to be of interest to all doctors. Ten surgical specialty sections are held simultaneously. Further information and brochures may be obtained by writing to Dr. F. J. Pinkerton, Director General of the Pan-Pacific Surgical Association, Suite 230, Alexander Young Building, Honolulu 13, Hawaii.

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FALLS FROM A HIGH CHAIR

Attempts to put the growing infant on a level with his parents by providing him with a high chair may be valuable psychologically and from the standpoint of wear and tear on the adult back, but high chairs have drawbacks, according to a letter in *Lancet* recently. In this letter, Glasser of the Westminster Children's Hospital, London, describes the results of an investigation into falls from high chairs. The mothers of 618 children who were brought to the casualty department of the hospital were interviewed. It was found that 431 of these children used a high chair and that they had sustained 52 accidents. Thus the accident rate for the users of high chairs is nearly 1 in 8. True, the types of injuries sustained were mainly minor, such as bruises and cuts, but there were cases of fractures of the nose and skull and of loss of consciousness. Even the use of straps did not prevent falls entirely. Glasser therefore suggests that either the use of high chairs be discontinued, or their design be changed.

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EFFECTIVENESS OF ANTITUBERCULOUS TREATMENTS

Tubercle bacilli from a patient were grown *in vitro* in the patient's blood obtained before and after the administration of drugs. Kreis (*Am. Rev. Respiratory Dis.*, 80: 85, 1959) comparing these data with those obtained by conventional drug-susceptibility tests found that the patient's own bacilli were virtually always inhibited by his own blood withdrawn at the beginning of treatment with streptomycin or isoniazid. At times, the patient's own bacilli were not inhibited during the treatment with a weaker drug such as cycloserine. As for the patient-strains that have lost some drug susceptibility, some

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which appear to be highly resistant to conventional testing show only partial or no growth in the host's own blood. This is principally a result of the fact that some strains of tubercle bacilli are only partially resistant to a particular drug, and that the blood concentrations of a drug may vary considerably in different patients. It is believed that the method described can give more accurate information to the clinician than the conventional *in vitro* tests for drug susceptibility, especially in patients receiving multiple-drug therapy.

NEW YEAR HONOURS IN THE COMMONWEALTH

The medical New Year Honours announced in the *London Gazette* on January 1 included a baronetcy for Sir James Paterson Ross, President of the Royal College of Surgeons of England, a K.C.V.O. for Dr. I. W. Magill, Honorary Consultant Anæsthetist to Westminster Hospital, and knighthoods for: Professor A. M. Claye, President of the Royal College of Obstetricians and Gynæcologists; Professor D. M. Dunlop, Professor of Therapeutics and Clinical Medicine in the University of Edinburgh; Dr. E. Ford, Director of the School of Public Health, University of Sydney, Australia; and Dr. W. W. S. Johnston, Consulting Physician to the Royal Melbourne Hospital, Melbourne, Australia.

SOME HOSPITAL PROBLEMS

On January 13, the Schwitalla Lecture, named in honour of Father Alphonse M. Schwitalla, a leader of the Catholic Hospital Association, was given by the well-known American medical journalist, Dr. Morris Fishbein. Dr. Fishbein put his finger on a number of problems connected with hospitalization today and pointed out that when 35 years ago there was a great drive on to socialize medicine in the United States and possibly bring all hospitals under government control, this drive was halted temporarily by the development of Blue Cross and Blue Shield insurance. The latter development encouraged private insurance companies to enter the field competitively, and today about 120 out of the 170 million people in the U.S.A. are covered by hospitalization insurance. However, said Dr. Fishbein, there is a need to give constant consideration to keeping the insurance system up to the needs of the institutions and the people they serve. Premiums must be adequate to cover the costs of hospital care, and the point of view that carrying hospitalization insurance is some sort of charity instead of a simple economic procedure must be combated. As costs rise, premiums must be increased to meet the costs, otherwise there is dissatisfaction and subscribers tend to drop out.

He referred to the tendency in the U.S.A. to send many more people into hospital for diagnostic tests and radiological study than was strictly necessary, because their insurance covered hospitalization alone. He referred also to the problem of keeping patients in hospitals longer than they should probably remain.

The cost of labour represents the primary rise in the cost of hospital care nowadays, and the attempts by various labour organizations to organize labour in hospital with the primary emphasis on shorter hours and more pay must inevitably further increase costs.

Dr. Fishbein said that when he entered on the medical scene there was a tradition in medicine of devotion to the sick as a prime motive for those working in the whole field of medical care. While this devotion continued to prevail among such persons as the sisters who gave service in Catholic hospitals, it was tending to diminish among some other persons employed in hospitals. Whether the three or four million people employed in hospitals in the United States could be impressed with the dual nature of their occupation—as a job and as a devoted service—remained to be seen.

TOILET TRAINING AND ENURESIS

It has often been claimed that a major factor in the production of enuresis is the method of toilet training. Some workers have found that most enuretics had received insufficient training, while others incriminated coercive methods, including early training. A retrospective inquiry concerning toilet training was undertaken by Dimson (*Brit. M. J.*, 5153: 666, 1959) into 165 "wet" families comprising 225 enuretic children (ones who were still wet at night at the age of four years in the absence of any discoverable organic cause) and 174 dry siblings, and the findings were compared with 174 "dry" families containing 384 children as controls. The time of beginning training was found to bear no relation to the problems of enuresis, and neither coercive training nor lax methods were significant factors in the production of enuresis. Whether coercion was used or not, many babies resisted their training by the time they were able to walk, and this resistance was found to be more frequent in enuretics than controls. The cause of the resistance encountered is not clear. It is concluded that while toilet training has no fundamental bearing on the causation of enuresis, resistance to training is often a contributory factor.

ANEURYSM OF THE PULMONARY ARTERY

Although very rare, aneurysms of the main pulmonary artery or of one of its major branches carry an extremely poor prognosis. A fatal outcome results either from right heart failure or from rupture of the aneurysm into the pericardium, pleural sac, or even the bronchial tree. Although some writers state that rupture is rare, others mention it as a common cause of death in this condition. Fatal ruptures have been described; it has been stated that about one-third of all such aneurysms end in this manner. If at all possible, therefore, surgical intervention should be considered, provided preliminary investigations indicate any possibility of success. In this connection angiocardiography must play an important part.

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The aneurysm in a case reported by Reid and Stevenson (*Dis. Chest*, 36: 104, 1959) would appear to have been due to a congenital defect in the wall of the main pulmonary artery. There was no histological proof to support this, but preoperative investigation ruled out specific infection, congenital cardiac defects, and the forerunners of cor pulmonale—mitral stenosis and idiopathic pulmonary hypertension.

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INTENSIVE TREATMENT WITH TRIAMCINOLONE IN PULMONARY TUBERCULOSIS

Although pulmonary tuberculosis used to be considered a contraindication to treatment with steroids and experience of some workers with earlier corticosteroids had been most disappointing and even fraught with danger, Palenzona and his colleagues (*Minerva Med.*, 50: 3312, 1959) tried triamcinolone after having learned of its freedom from many of the undesirable side effects of the earlier steroids.

Their experience is limited to five cases of progressive pulmonary tuberculosis in which the prognosis was poor and response to specific antibiotics and antituberculous drugs was not evident, and where surgery or collapse therapy was impossible. In all, the drug was given without interrupting chemotherapy and antibiotics. In the first case, after an initial promising response, the results were essentially negative. In the other four cases the response was satisfactory within definite limits. There was improvement of cough, a general feeling of well-being, diminished toxæmia and improved laboratory findings. In one patient who appeared particularly well after 55 days of treatment, a sudden severe hæmoptysis led to death. The authors were unable to determine to what extent the steroid treatment may have contributed to this hæmoptysis. None of the patients presented evidence of water retention but there was a definite increase in diuresis. Although no psychotic reaction was observed, all five patients exhibited a marked euphoria, in contrast to the observations of American authors. Whatever the future of these four surviving patients will be, there is no question that progressive pulmonary tuberculosis does not contraindicate therapy with corticosteroids as far as ill effects are concerned. Treatment up to 50 days with doses of 12 to 20 mg. of triamcinolone can be of considerable help in reactivating the organic defences of the body and in producing a more favourable biological milieu in the fight against tuberculous infection. During this treatment patients should be adequately covered by appropriate antituberculous agents.

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A NEW VASODILATOR AGENT

The usefulness of isoxsuprine hydrochloride as a dilator of peripheral blood vessels was studied in 46 patients with arteriosclerosis obliterans. Their ages ranged from 41 to 77 years, and gangrene was present in three. Samuels and

Shaftel (*J. A. M. A.*, 171: 142, 1959) report that objective evidence of improvement, in the form of increased walking distance, healing of gangrene, and oscillometric and plethysmographic data, was obtained in 39 patients. The mean digital blood flow (toe) for eight patients, as estimated by plethysmography, was doubled after the administration of isoxsuprine hydrochloride. The drug was given by mouth at dosages of 10 or 20 mg., three times a day, for periods ranging from three weeks to 18 months. It is rapidly and completely absorbed after oral administration. This dosage did not cause any untoward side effects, and no contraindications were noted.

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FOLLOW-UP OF PATIENTS IRRADIATED FOR THYMIC ENLARGEMENT

Irradiation of the thymus gland in infancy was often practised in the thirties for the treatment of a variety of symptoms thought to be associated with thymic enlargement. Prominent among these symptoms were stridor and attacks of cyanosis, dyspnœa and syncope. Thymic irradiation went out of fashion in many centres after about 15 years, when it had become apparent that the symptoms ascribed to enlargement of the gland usually cleared as quickly without irradiation. This was fortunate, as it was not realized until some years later that there might be an association between such treatment and the development of thyroid cancer and leukæmia.

Newman (*Brit. M. J.*, 1: 34, 1960) attempted to follow up all infants who had received irradiation for thymic enlargement at two London hospitals. A total of 32 infants were found to have received thymic irradiation by deep x-ray or radium between 1932 and 1950. Thirty-one of these were traced. Three had died, one possibly from the acute effects of the radiation. One patient had developed a nodular goitre 22 years after the irradiation and another slight diffuse enlargement of the thyroid at the age of 17; another had a neurilemmoma removed from the neck at the age of 14. There were no cases of leukæmia.

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AMERICAN COLLEGE OF SURGEONS

A grant of $146,275 by The John A. Hartford Foundation, Inc., of New York, to the American College of Surgeons to inaugurate a program for improving the medical management of the surgical and injured patient is announced. This grant will permit the College to enlarge its long-established activities in the field of trauma, both at the national and local levels. The American College of Surgeons has had a functioning Committee on Trauma since 1922, and currently has a National Committee on Trauma and 241 state and local trauma committees located throughout the United States and Canada. With this grant, these committees and co-operating organizations will be able to work more effectively in a concentrated effort to determine patterns of care of the injured patient, and to inaugurate improvements in this care.

The new program will permit immediate establishment of pilot projects in selected cities, employment of a field staff to provide personal guidance—both to the public and to the profession—throughout America, and initiation of an evaluation program, all with the primary goal of improving care of the surgical and injured patient.

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TRANSMISSION OF NORTH AMERICAN BLASTOMYCOSIS

In a small community in Minnesota a 55-year-old man and a dog (owned by friends of the man) died of North American blastomycosis; post-mortem microscopy demonstrated granulomas and the presence of *Blastomyces dermatitidis*. The occurrence of two cases of this relatively rare disease in the same locality and within three months of each other suggests that an epidemiological relationship exists between the two. Although man-to-man transmission of this disease apparently does not occur, it would not necessarily follow that animal-to-man transmission is not possible.

Physicians making a diagnosis of North American blastomycosis should request veterinarians to carry out immunological tests, chest radiography, cultures of cutaneous lesions, and a complete physical examination of all pets and livestock of the patient in order to assess this suggestion.—R. M. Schwartzman, *J. A. M. A.*, 171: 2185, 1959.

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N.Y. STATE PROGRAM FOR PHENYLKETONURIA

New York State is starting a program for the supply of a special diet formula by the Department of Mental Hygiene to children suffering from phenylketonuria.

The program is being organized on a research basis and will make it possible for physicians throughout the state to secure supplies of the necessary diet for patients if their financial circumstances are such that they require assistance. The diet will be supplied for all children up to the age of 5 suffering from the disease who are expected to respond to the treatment.

An estimated 20 new cases of this rare form of mental deficiency occur each year in New York State. While irreversible brain damage takes place within the first five years of life in the absence of treatment, there is good reason to believe that a child identified in early infancy and treated with the special diet will not become mentally defective.

The operation of the pilot program will be centred at Letchworth Village, Thiells, N.Y., under the direction of Dr. George A. Jervis. All cases will be reviewed in the project centre, but the general medical supervision of the patient will be in the hands of the family physician. Supporting laboratory services will be provided wherever requested.

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U.S. NATIONAL INDEX ON DEAFNESS, SPEECH AND HEARING

Gallaudet College and the American Speech and Hearing Association have established a National Index on Deafness, Speech and Hearing. This Index will combine the present indexing and abstracting functions of the Central Index of Research on the Deaf at Gallaudet College and the projected indexing and abstracting functions of the American Speech and Hearing Association. General policies will be formulated by a committee composed of representatives of Gallaudet College and representatives of the American Speech and Hearing Association.

The purpose of the National Index is to index and abstract all professional literature pertaining to deafness, speech and hearing and to make this material readily available to all interested persons. Not only will present and future literature be included but also all of the relevant past literature. The National Index will make the collected material available through a regular, professional publication. It is believed that the National Index will provide a necessary and useful service to all persons concerned with the problems of deafness, speech and hearing.

The National Index on Deafness, Speech and Hearing is made possible in part by a grant from the Office of Vocational Rehabilitation of the Department of Health, Education and Welfare. Further information may be obtained by writing to: Dr. Stephen P. Quigley, Director, National Index on Deafness, Speech and Hearing, Gallaudet College, Washington 2, D.C.

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EIGHTH INTERNATIONAL CONGRESS OF BLOOD TRANSFUSION

The Eighth International Congress of Blood Transfusion will take place in Tokyo, Japan, from September 12 to 15, 1960, as the Eighth Congress of the International Society of Blood Transfusion. This is the first international scientific meeting on blood transfusion to be held in Asia. It will be preceded by the Eighth International Congress of Hæmatology, which will be held in Tokyo from September 4 to 10 and in which immunohæmatology will be one of the major subjects. The Congresses will jointly sponsor a symposium on

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bone-marrow transfusion on the first day of the Blood Transfusion Congress, September 12.

The major subjects of the Congress are: (1) Bone-marrow transfusion (a joint symposium with the Hæmatology Congress); (2) Extracorporeal circulation; (3) New aspects of blood groups—(a) genetics, (b) serology, (c) blood groups and diseases (d) transfusions (including transfusion reactions due to various antibodies); (4) Biochemical and clinical aspects of blood proteins and new plasma fractions. Preservation of blood cells and problems of blood donor service organization, etc., will also be discussed during the Congress.

Further information and application forms can be obtained from: Dr. Seizo Murakami, Blood Transfusion Research Laboratory, Japanese Red Cross Society, Shibuya, Tokyo, Japan. The Japan Travel Bureau (2 Otemachi, Chiyodaku, Tokyo) is the official travel agency for delegates' hotel arrangements and travel in Japan.

CLINICAL PHARMACOLOGY AND THERAPEUTICS

What promises to be a most valuable new journal has recently made its appearance in the United States. This journal, known as *Clinical Pharmacology and Therapeutics*, is to be published six times a year, and has as its policy the publication of communications of high quality on problems in the evaluation of actions and effects of drugs *in man*. In the first issue, Walter Modell points out in an editorial that these publications are at present scattered throughout the medical literature simply because there is no journal which has its sole interest in the field of human pharmacotherapeutics. As the editor so well puts it, "There is no frame for a fair and representative picture of this vital, prolific, aggressive, confusing, misused, hopeful, under-rated, and above all wish-propelled field of modern medicine. There is no journal to control and curb its exuberance." The new journal is meant for the clinical pharmacologist and also for anyone interested in therapy. The first issue contains not only results of original investigations of new drugs, but also reviews of the present position in such fields as, for example, treatment of systemic fungus diseases and worm infestations. It looks as if this is going to be one of the indispensable journals for people who take their therapeutics seriously. It is published by the C. V. Mosby Company, St. Louis 3, Missouri.

ŒSTROGEN THERAPY IN POSTMENOPAUSAL WOMEN

The safety and effectiveness of œstrogen therapy in postmenopausal women were studied by Wallach and Henneman (*J. A. M. A.*, 171: 1637, 1959) in a series of 292 cases. The mean duration of œstrogen therapy in this group was 5.1 years per patient. The œstrogens most used since 1945 were diethylstilbœstrol and conjugated equine œstrogens, and the latter were tolerated without side effects by almost all patients. Among the commoner symptoms of the menopause, hot flushes were

completely relieved in 93 of 94 patients.

The criteria chosen to evaluate the results of œstrogen therapy of postmenopausal osteoporosis were persistence of chronic back pain, loss of height, and roentgenographic progression of vertebral compression. Radiological assessment of density of the spine was found to be an unreliable method for estimating changes in degree of osteoporosis, since marked differences in radiodensity occurred, owing solely to variations in radiological technique. Height loss was adopted as a criterion because of a positive correlation between this parameter and roentgenological evidence of vertebral compression. The effect of therapy on height loss and vertebral compression was evaluated in 22 women with osteoporosis who received therapy for four or more years. These women had lost one to five inches in height before therapy and had compression of one or more vertebræ. Height loss ceased immediately after the initiation of œstrogen therapy in 10 patients and within two years of initiating therapy in an additional six. In no patient was there an unequivocal increase in radiodensity after therapy. The small positive balances of nitrogen, calcium, and phosphorus induced by œstrogen in these studies may offer partial explanation for the failure to observe increased radiodensity after therapy, and the interval between the initiation of therapy and the cessation of further vertebral compression in some patients. Complete or significant relief from chronic back pain occurred in 90% of patients treated with œstrogen.

A study of the incidence of tumours among the 292 patients yielded no justification for the fear that carcinoma of the breast and cervix may result from this therapy.

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CO-OPERATIVE STUDY OF CEREBROVASCULAR DISEASE

There is today great interest in the treatment of cerebrovascular accidents with anticoagulant agents. McDevitt *et al.* (*Circulation*, 20: 215, 1959) have recently published a preliminary report of a co-operative study of this subject in 302 patients. The following information has been provided by this study.

Certain laboratory tests have been helpful in clarifying the underlying cerebral lesion. The spinal fluid examination remains one of the most important of these, and anticoagulants should not be given without such an examination. Xanthochromia of the fluid is an absolute contraindication to immediate anticoagulant therapy and should not be ignored even if other significant thromboembolic complications develop. The electrocardiogram is an essential part of the examination of any patient with evidence of cerebral vascular disease, for myocardial infarction is frequently associated with the appearance of cerebral signs of focal nature. Serial electroencephalograms may be helpful in differentiating cerebrovascular disease due to cerebral thrombosis from tumour or intracerebral hæmatoma. Visualization of cerebral vascular structures by angiography

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is of particular assistance in establishing the diagnosis when an adequate history is not available for any reason.

After the initial cerebral lesion, 20% of patients in the control group, but only 4% of the treated group, developed a thromboembolic complication—a difference of 16% between the two groups.

There was a substantial difference (11%) between the percentages of patients with hæmorrhagic complications in the treated and in the control groups. This increase in instances of hæmorrhage reflects the hazards associated with anticoagulant therapy in elderly patients with multiple system disease.

While the prognosis for any given patient is difficult to establish, it appears that patients receiving anticoagulants have the lowest mortality and lowest rate of thromboembolic complications. They do have an increased incidence of hæmorrhage, but in the group studied there were no deaths from such hæmorrhage.

U.S. HEALTH INSURANCE DATA

The Health Insurance Institute has produced a useful brochure called the *Source Book of Health Insurance Data,* 1959, which contains a vast amount of statistical and other factual information on health insurance through voluntary insurance organizations in the United States. It embodies the results of a variety of surveys conducted by leading associations of insurance companies and other health insurance plans, government agencies and hospital-medical groups. Topics covered include the extent of coverage under health insurance in the U.S.A., trends in health insurance premiums, trends in benefits paid by health insurance, types of health insuring organizations, medical care costs in the United States and morbidity in the United States. There is also an appendix containing historic dates in health insurance, and a glossary of terms together with some charts and tables. The Source Book costs 25c per copy and is obtainable from Health Insurance Institute, 488 Madison Avenue, New York 22, N.Y.

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INTERMITTENT POSITIVE PRESSURE BREATHING

The use of intermittent positive pressure breathing apparatus for administering aerosols in treating chronic pulmonary disease has gained considerable support in recent years. Since then the unique value of the physiological effects of intermittent positive pressure breathing itself has been more clearly established, as in the treatment of respiratory acidosis, in making nebulization more effective in certain patients and in managing medical and surgical problems of hypoventilation.

The effects of pressure-nebulized bronchodilators on ventilatory function administered with and without intermittent positive pressure breathing were studied by Taguchi (*Am. J. M. Sc.,* 238: 153, 1959) in 29 patients with pulmonary emphysema. *No significant differences in the degree of im-*

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provement were demonstrable. The patients' choices of the most effective methods could not be correlated with objective measurements.

In the second study, changes in ventilatory function following pressure nebulization of a placebo with and without intermittent positive pressure breathing were compared in 25 patients with pulmonary emphysema. No significant beneficial or harmful effects on ventilatory function attributable to intermittent positive pressure breathing were shown. Changes in ventilatory function due to psychological or other factors were frequently demonstrated in both studies.

Contraindications to intermittent positive pressure breathing are few and include recent pneumothorax, pulmonary hæmorrhage, shock, and certain cases of decreased cardiovascular reserve.

From a practical standpoint the automatic and intermittent nebulizing features of intermittent positive pressure breathing which save O_2 and aerosol make this apparatus extremely useful. With low mask pressure, except when specifically indicated and with O_2 as the pressure source, this unit has proven to be safe, effective, and convenient for routine aerosol treatment. Emphasis, however, is placed on the need for individualizing treatment for each patient.

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POSTGRADUATE COURSES IN THE U.K.

The Commonwealth Medical Advisory Bureau of the British Medical Association issued in December 1959 a new version of its "Summary of Regulations for Postgraduate Diplomas and of Courses of Instruction in Postgraduate Medicine" for the guidance of Commonwealth graduates intending to spend some time in Britain. The Summary contains information about the Commonwealth Medical Advisory Bureau (whose Medical Director, Dr. R. A. Pallister, is always ready to help Commonwealth students in any way) and classified lists of postgraduate courses available in the various specialties, and the diplomas to which they may lead. There is also a most useful list of addresses of educational bodies in the U.K. A copy of this Summary may be had by application to Dr. Pallister at the Commonwealth Medical Advisory Bureau, British Medical Association House, Tavistock Square, London, W.C.1.

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DISORDERS OF THE SHOULDER

In 1950, Dr. H. F. Moseley of Montreal published a monograph "Disorders of the Shoulder" in the series of *CIBA Clinical Symposia.* This proved extremely popular, and the latest issue of the *Symposia* (Vol. 12, No. 1) contains a reprint of this monograph with certain changes in the text to bring it up to date, and some new pictures to show the life history of calcium deposits in the shoulder and the operative technique utilized in their removal.